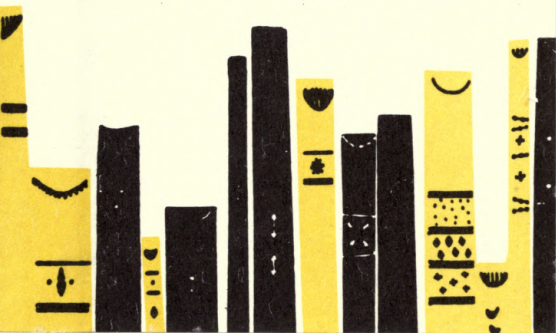




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**AMERICAN PLANNING  
AND CIVIC ANNUAL**











# AMERICAN PLANNING AND CIVIC ANNUAL

A RECORD OF RECENT CIVIC ADVANCE IN THE  
FIELDS OF PLANNING, PARKS, HOUSING, NEIGH-  
BORHOOD IMPROVEMENT AND CONSERVATION  
OF NATURAL RESOURCES, INCLUDING ADDRESSES  
DELIVERED AT THE CITIZENS NATIONAL CON-  
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THE ROLL CALL OF THE STATES AT THE 32nd  
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EDITED BY  
HARLEAN JAMES

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1952

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The purpose of the AMERICAN PLANNING AND CIVIC ASSOCIATION is the education of the American people to an understanding and appreciation of: local, state, regional and national planning for the best use of urban and rural land, and of water and of other natural resources, the safeguarding and planned use of local and national parks; the conservation of natural scenery; the advancement of higher ideals of life and civic beauty in America; the improvement of living conditions and the fostering of wider educational facilities in schools and colleges along these lines.

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## Preface

IN 1952 the principal theme of the National Citizens Conference on Planning and Resources, organized by the American Planning and Civic Association at Louisville, Kentucky, was directed to the conservation and wise use of the Water Resources of the United States. From the program we present in this ANNUAL statements concerning the aims and functions of important Federal agencies dealing with water resources. It is apparent that some of the claims for water advanced by the various agencies conflict with each other.

While the principle of multiple-use may develop projects which serve several concurrent purposes, we find that some reconciliations must be made in multi-purpose projects. Certainly flood control would point to maintaining space in reservoirs in which to catch the flood waters. But power and reclamation needs would require fairly full reservoirs to provide water for irrigation and power.

The most serious conflict, however, comes when power, reclamation and flood-control projects are proposed to be located in national parks, monuments, wilderness and wildlife areas, for these areas have been set aside by Congress and Executive Order to exclude these very uses. In proportion to the total area of the United States, these reservations constitute a fraction of the whole, so that there is ample opportunity for development of water supplies, power, reclamation and flood control, outside of the areas which are being protected from such uses.

In this connection it may be pertinent to report that in most cases where there is a demand for power, reclamation and other incompatible uses in national parks and similar areas, the projects would prove uneconomic if a realistic charge were made for the park and wildlife values commandeered or confiscated. Often the economic saving in construction which seems apparent would be more than counterbalanced by the losses in natural scenery which, once destroyed, can never be restored.

At the Conservation Conference of Governors called by President Theodore Roosevelt in 1908, Dr. J. Horace McFarland, then President of the American Civic Association, pointed out "the essential value of one of America's greatest resources—her unmatched natural scenery." Since that date Congress has added to the few national parks then in existence to create a magnificent National Park System, and has recognized wilderness and wildlife reserves as national assets.

In the field of water resources we are learning to prepare programs for watershed areas. This seems essential and is generally conceded to be sound practice, but we are still in the experimental stage in developing appropriate administrative agencies to realize such regional plans.



We have been glad to include in this ANNUAL discussions of some of the local city problems in the management of waterfronts, in the light of the long history of neglect and haphazard development of urban waterfronts. Chicago was a pioneer in adopting an extensive lake-front development plan which has now been realized and is paying valuable dividends. Today, many other cities are embarking on beneficial redevelopment of river, lake and ocean frontages to serve recognized needs of the people.

It is believed that the papers presented in this ANNUAL will constitute valuable contributions to American thinking and practice in the important field of water resources.

In the 1952 ANNUAL, as usual, we present reports from the States on State Park progress as given at the 32nd Annual Meeting of the National Conference on State Parks, held at Custer State Park, South Dakota. Generally, the state parks are protected from the incompatible uses which are prohibited in national parks.

All in all, the Federal and state governments cooperate to preserve for this and future generations those selected areas of native landscape which otherwise would be destroyed and lost forever. This is fortunate, for we must recognize that the impact upon our natural resources caused by our growing population and expanding national and international trade, dictates a planned program which includes all legitimate uses, each in its proper place. Certainly we would never wish to turn over to power development every drop of falling water. But there is a large and legitimate place for extensive power, reclamation and flood control projects which will provide living and working facilities of great value to the American people without sacrificing the conservation of our natural resources in the limited areas set aside for their preservation.

Progress lies in the substitution of planned water-use programs which recognize all beneficial uses but which do not permit one use to destroy other more valuable uses in a balanced program.

HARLEAN JAMES, *Editor*

Washington, D. C.

## THE NATION

### WATER RESOURCES IN THE UNITED STATES

#### The Importance of Our Water Resources

DALE E. DOTY, Assistant Secretary of the Interior, Washington, D. C.

EDITOR'S NOTE.—Mr. Doty is now a Member of the Federal Power Commission, Washington, D. C.

**I** BELIEVE that through meetings such as this there is becoming an increasing awareness on the part of the American people of the significance of water to our way of life, and the ways in which it might limit our future growth and development as communities and as a Nation.

This increased interest is evident in many ways. President Truman appointed a special commission to study these various water problems and how they are being handled, or should be handled, by the Federal Government. Recently New York City had a dramatic shortage of water for domestic use. There is a tremendous interest, and research is progressing rapidly, in artificial precipitation and in distilling salt water, which has undetermined but exciting possibilities in meeting the water needs of certain parts of the country.

In one sense, water is the most plentiful of all resources. It exists as vapor in the atmosphere. In lakes, streams, glaciers, and ice caps it is distributed widely over the land areas of the earth. In the oceans it covers the major portion of the earth's surface. At the same time, as man has spread his occupancy over the earth and as an advancing civilization has expanded the needs for water in both amount and variety, the problems of having water at the proper places, in the right amounts, and in the proper condition for use at reasonable costs, have emerged as some of the most difficult of resource problems.

In certain areas of the country lack of sufficient water is threatening to place a limit on economic health and growth. Adequate water for industry and agriculture is a principal problem to be faced in many parts of the country during the next decade. It is already a grave problem in Southern California with the recent increases in population, and on the Gulf Coast of Texas with its rapid expansion of industries. I believe the answers to some of these problems will be found in developing comprehensive plans for use of the water of the entire basins. I need scarcely point out that in other areas, excessive amounts of uncontrolled flood waters are causing equally serious problems.

We have had to make the water in our lakes and rivers supply cities with both domestic and industrial water, as well as a means of disposing of wastes. We have had to improve these bodies of water as highways for commerce. Arid and semiarid lands have been made



more productive through irrigation from lakes and streams. By the construction of dams and reservoirs, rivers have been regulated, floods increasingly controlled and electric power and other services provided.

At the same time, we have been confronted with the problems of preserving the natural qualities of certain of our lakes and streams, sufficiently to provide adequate habitat for fish and wildlife and to preserve those scenic areas whose value depends upon leaving the natural characteristics of the water courses undisturbed.

Simple projects for the development and use of the water resources were sufficient at first. But as the more favorable sites have been developed and the demand for water has increased, more complex and costly projects have been required. This has led to participation by the Federal Government in water resource development programs.

In the Department of the Interior, the Reclamation program, which at first supplied water only for irrigation of arid lands, now has expanded to multiple-purpose projects providing a number of different types of services such as power generation, flood control, navigation improvement, and recreation. Similarly, the Corps of Engineers in flood control projects, has also found it desirable to provide other services, so today multiple-purpose water development projects are accepted as a means to the fuller development of our water resources. Not only have individual projects been made to serve many purposes, but we are increasingly insisting that the individual projects fit into a basin-wide plan.

The desired objective of any public resource development project is to derive the maximum net public benefits. This always creates a basic problem for the Federal Government. We seldom can have maximum development of any resource without interfering with the varying interests of individuals or groups. A water storage reservoir cannot be built without flooding the lands in the reservoir area and often roads and other public facilities are adversely affected. We know it is difficult to develop a major stream basin for power and irrigation and expect to maintain the original resources of fish and other wildlife.

A balanced resource development program should seek the minimum of conflicts among existing and potential uses and realize the greatest values from all the resources involved. Parks and recreational areas are considered desirable and often essential, but who can say how much would be the loss in dollars if they should be impaired or destroyed by a proposed project. It is recognized that reservoirs frequently do provide opportunities for desirable recreational and other types of developments but such structure may be out of place in areas where other values are more important.

Let me illustrate the types of conflicts I have in mind with a few problem situations with which I am familiar. In the Pacific Northwest the multimillion dollar salmon industry is practically dependent on the

preservation of upstream spawning grounds on the Columbia River and its tributaries. This requires a relatively unimpaired stream for passage of salmon to and from the ocean. Such conditions are difficult to maintain without seriously limiting development of urgently needed hydroelectric power potentialities of the Columbia and other rivers in the region.

From an over-all public viewpoint the weighing of the relative values of the existing and potential uses is not an easy task. It would appear that if satisfactory means cannot be found for passing fish over high dams, at least the lower tributaries of the main streams must be preserved and developed, which along with artificial propagation should serve to maintain the salmon industry.

Another problem situation exists in the Klamath Basin area on the California-Oregon border. This rather small area is a key to the management of the valuable waterfowl resources of the Pacific Flyway. At this precise point the important flyways of millions of waterfowl produced in Alaska and Canada meet. The birds have regularly stopped to feed and reproduce before moving into the Central Valley of California. Development of this area by drainage and irrigation already has destroyed thousands of acres of marshland which formerly provided nesting and feeding habitat. Lands of the Basin are highly productive and they are in demand for farming. Before further development of these lands is undertaken the value of waterfowl as part of our American heritage needs to be carefully weighed against the conflicting need for additional farm land.

In the Upper Colorado River development plan of the Bureau of Reclamation there is the question of permitting the construction of two power dams and reservoirs which would destroy a part of the natural features of an extraordinarily picturesque canyon in the Dinosaur National Monument. Here a basic question of public concern is whether power from alternate sources would be more desirable than permitting permanent destruction of a scenic area of national park quality.

Similar conflicts of varying degrees of intensity arise in connection with other water resource development projects throughout the country. Drainage projects quite generally destroy the habitat of wildlife. Transmountain diversion projects frequently cause interbasin conflicts for the use of water. Needed power and flood control projects in the New England States tend to further reduce the small areas of available farm land. Such conflicts cannot be settled in the best public interest without an impartial analysis of all the affected interests.

Unfortunately, some of the conflicts I have referred to might create the impression that there is a major discord between the water resource development agencies, such as the Bureau of Reclamation and the Corps of Engineers, and the land management agencies such as the



National Park Service, the Fish and Wildlife Service, and the Forest Service. On the contrary, there is an impressive history of effective cooperation between them. In my opinion, they are doing a creditable job of cooperative planning that is so urgently needed for the development of comprehensive river basin programs.

With the increased need for water and the products and services associated with water development projects there has been a demand for more careful and comprehensive planning in the use of our water resources. The problems in such planning grow out of the complexities of developing programs to meet the variety of relationships and demands. A program must be planned in a comprehensive manner without overlooking any of the related parts, no matter how small. Generally, a water development program does not move ahead through the Congress as long as there is any substantial opposition. Frequently an unsettled question relating to only a small part of a river development program is enough to cause the Congress to delay the whole matter until the minor question is resolved. This suggests to many that there is need to have these conflicting interests weighed and plans prepared at the community and regional level.

Associations, organizations and techniques need to be developed to consider locally the broad needs and to reconcile differences at an early stage in the planning. Too often the specialized interests are exceedingly active in promoting one or more phases of a program, but the necessary over-all coordinated consideration is being neglected. When the program then reaches the Federal agencies, or perhaps the Congress, it must be delayed while plans are made to accommodate some interest or need that was ignored in the earlier planning.

I would like to discuss briefly some of the steps which have been taken at various levels of Government to resolve the conflicts associated with water development.

The Department of the Interior has both land and water development agencies. Steps to integrate the programs of these agencies have been taken through the establishment of field committees in the various major areas or river basins where the planning work is going on. These committees bring together the top field representatives of the various bureaus and offices of the Department to discuss their plans and programs for the area. This interchange of information takes place at the field level where the most thorough knowledge of actual conditions and needs is found. It serves to identify opportunities for more effective cooperation in the planning work and to resolve differences which might later arise among agencies with varying responsibilities for the development and management of the land and water resources of the area.

The committee reports help the Secretary to develop a coordinated and integrated program to best meet the needs of the area, and to mini-



mize or avoid the imbalance and unresolved conflicts which have been all too frequent in the past.

The Department of the Interior has such field committees in the Pacific Northwest for the Columbia and the adjacent area, in the Missouri River Basin, in the Southwest area, in the Colorado Great Basin and in Alaska. In time we hope to establish other field committees.

The departmental field committees are asked to develop estimated annual program requirements for six years in advance. This encourages the committee members to forecast as accurately as possible the activities which should be undertaken by their respective bureaus to meet regional and national needs. This breakdown of the program by years also leads to setting of priorities in the programming of future water and land development projects.

Other departments and agencies of the Federal Government are also engaged in planning and developing the land and water resources. We will hear about some of their programs in detail. Flood control programs are being carried on by the Corps of Engineers and the Department of Agriculture. The Department of Commerce through its responsibilities in the field of area analysis and highway development is affected by river basin development. The Federal Security Agency is interested in pollution control. The TVA represents still another Federal approach to water resource responsibilities.

Unlike the other Federal agencies concerned with water development which I have been discussing, the Federal Power Commission is not itself engaged in water development projects. Nevertheless, it is an important element in the conservation of the Nation's water and related resources, for its primary concern is with the public interest in private development of hydroelectric power. The Federal Power Commission issues licenses to private utilities, municipalities, counties, or States for the construction of dams, power plants, and transmission lines affecting streams subject to Federal jurisdiction. Licenses issued are to be conditioned on, among other things, protection of reservations of the United States, adaptation of each project to a comprehensive plan for developing or improving a waterway for all beneficial uses, provision of assessments for benefits to the licensees from headwater improvements, maintenance of navigation facilities and fishways, and provision of reasonable rates and services.

The Federal agencies have recognized the need for coordination and integration of their water resource development plans. For this purpose they have formed a committee known as the Federal Inter-Agency River Basin Committee. A principal purpose of this inter-agency committee is to provide an orderly means for informing the interested agencies of the beginning of actual investigations and surveys as authorized by Congress, and for review of the final plans for any proposed project before submission to Congress. The committee

also encourages joint analysis and research on mutual water resource development problems, such as sedimentation, hydrology, and the measurement of benefits and costs.

Although the Federal Inter-Agency Committee has been useful there are still many conflicts between the plans and programs of the various agencies. Joint surveys to develop a single plan for an entire river basin or other geographical area have been suggested to improve river basin planning and resolve interagency conflicts.

Two such joint surveys are in process at the present time. These are in the Arkansas-White and Red River Basins and in the New York-New England area. In both of these areas, flood control surveys were authorized by Congress and the President established interagency committees, specifically stating that the final product of the surveys should be single comprehensive reports setting forth the coordinated findings and recommendations of all participating agencies. The Department of the Interior is working closely with both the Arkansas-White-Red and the New York-New England surveys but it still remains to be seen if the committee system of planning resource development programs will work on the interagency level.

An alternative to the interagency committee method of resolving resource development problems is found in the recommendations of a task force of the Hoover Commission for the establishment of a Department of Natural Resources. I believe that such a Federal department could coordinate the various water and land development programs more effectively and efficiently than can be done by interagency surveys. There are, however, factors causing imbalances and conflicts in our programs which cannot be dealt with by governmental reorganization alone. Funds for conservation activities are not always made available by Congress on a balanced basis. Such a situation arose in the Interior Department's investigation of the Rogue River Basin where funds were available for irrigation and power studies by the Bureau of Reclamation, while related studies of other agencies of the Department lagged seriously for lack of funds. The Fish and Wildlife Service, for example, has not even been able to carry out a continuous study of the fish resources through one complete life cycle.

Other investigational and data gathering activities have frequently lagged behind the water resources studies and the construction of major river structures. Topographic maps, and land surveys, recreational studies, mineral investigations, and similar programs that should proceed in step with the water resources investigations, have generally not kept pace. In most cases the answer is not to hold back the river development studies, but rather to make certain that all resource investigations and developments are carried forward in a balanced manner and in time to do the most good.



## Functions and Activities of the Bureau of Reclamation

N. B. BENNETT, JR., Assistant Director, Division of Project Planning,  
Bureau of Reclamation, Department of the Interior, Washington, D. C.

**I**N DECEMBER 1901, President Theodore Roosevelt advised the Congress that it was properly a national function to construct and maintain great storage works and irrigation works on the rivers of the United States. He maintained that the cost of construction of such works so far as possible should be repaid by the land reclaimed. He advocated family-size farms and felt strongly that the people as a whole would profit from reclamation because, as he stated, "successful homemaking is but another name for the upbuilding of the Nation."

In 1902, the Reclamation Law was passed, and it carried out substantially the policies set forth by President Roosevelt. Since that date, the law has been revised and enlarged to include all the other aspects of river regulation and development, such as flood control, power, navigation, recreation, fish and wildlife propagation. Never once, however, have the basic policies been changed.

It is clear, I believe, that Reclamation is an effort by the Congress to develop and maintain a balanced economy in the West and in the Nation and to contribute to the general expansion and strength of the local and national economy. This, then, is the basic function of reclamation. The Bureau of Reclamation is an administrative organization established to administer a program of development, conservation, and control of water resources, all aimed at the over-all objective established by the Congress, and controlled by the policies and laws laid down by the Congress.

The Federal Government has invested approximately one billion dollars in reclamation development. About 25 percent of this is for hydro power. From the remainder there now flows gross crop incomes in excess of \$500 million per year. In other words, the initial investment is almost equaled by the annual income. In addition, substantial national revenues come from indirect sources. Since Hoover Dam made possible the tremendous industrial expansion of Southern California, income tax revenues from that area have reached two billion dollars annually, and this from an investment by the Federal Government of only \$75 million. In the Salt River Valley of Arizona, the annual income tax is approximately twice the original investment of 22 million. But even more significant, the entire reimbursable construction cost on several early projects has now been returned to the Treasury.

In the history of our Nation, the West has always been an area of economic opportunity that has absorbed migrations from the overpopulated eastern sections of the country. The tremendous influx of people to the West Coast during the past war and continuing move-



ment of peoples westward, present a national challenge to provide these people with the opportunity to earn a living. Expansion of Reclamation is one of the chief measures available with which to meet this challenge, because of the creation of new farming and farm employment opportunities and the increased opportunities in industry and business resulting therefrom.

Experience has taught us that in addition to national sufficiency and economic stability, we must ever strive to maintain regional sufficiency. Population forecasts, based upon past trends, indicate that the population of the 17 Western States lying in whole or in part west of the 100th meridian, now some 30 million people, will increase 14 million by 1975. If all irrigation potentialities of these 17 Western States could be developed by that time, the new development could not produce enough agricultural products to supply fully the needs of the new inhabitants. May I reiterate that date—1975. That is only 23 years from now. This requirement for agricultural production will occur within the lifetime of most of us here today. The President's Water Resources Policy Commission stated that the United States would need an additional 99 million acres of crop land by 1975 to maintain present diet standards. If adequate diet were made available to the whole population, an additional 96 million acres are required.

I do not wish to imply that the Reclamation Program is the only means by which we must seek to increase our Nation's agricultural production, nor that all potential irrigation projects will prove feasible of development within this short span of years. I am only too well aware that it would be utterly impossible for the increasing needs to be wholly supplied by the new irrigated acreage. The Reclamation Program is not a cure-all, but it is an essential keystone in our western and national economic system.

In discussing the need for increased agricultural production, we have been talking about day after tomorrow, and even today. However, when we come to discuss the need for hydroelectric power, we cannot talk about day after tomorrow. We must talk about yesterday. Men, machines and materials stand idle for want of electric power. Last year thousands of men were idle for periods during the fall and winter months because of power shortages. That scene may be repeated this year, and the next and the one after that. It is our responsibility to assist in preventing this picture of idleness from becoming a permanent feature of the American way of life. There is in this country one, and only one, inexhaustible source of electric energy in commercial use today. That source is falling water. Electrical energy produced by coal, oil, gas, or any other fuel, represents an irreplaceable loss of a limited national resource. The fullest practicable development of the power potentialities of our western streams, as an adjunct to irrigation development, is therefore essential to the continued prosperity of our

western economic structure. And let us not forget that the prosperity of this Nation depends upon the prosperity of each State.

We have briefly considered two benefits of Reclamation, agricultural products and hydroelectric power. In addition, Reclamation provides: flood control; fish and wildlife protection; recreational opportunities; municipal water supplies; navigation improvements; salinity control; river regulation; and other associated benefits. All of these combine to aid in balancing the economy of the West and the Nation.

As might be expected, the simplest Reclamation developments were completed early and were designed generally to serve one and only one purpose. These possibilities have been exhausted and Reclamation of the future involves developments of enormous complexity. We think now in terms of basin-wide and even inter-basin multiple-purpose developments. In accordance with this river basin concept of planning, 13 major basins have been delineated in the West. Water may be routed hundreds of miles through complex systems to reach the areas where it will be used beneficially. It may be lifted a thousand feet or carried through impressive tunnels to cross mountain divides. Before the water is finally utilized, every ounce of usefulness must have been extracted. Power must be generated not only once but as often as suitable sites along streams and canals permit. In connection with our hydroelectric power plants we must look forward to and plan for the time when they will be incorporated in a west-wide, or even nation-wide, power grid. Water must serve to the optimum extent the needs of fish and wildlife, of recreation, pollution abatement, navigation, salinity control and other uses. Its destructiveness in flood must be curbed and its oftentimes damaging loads of silt and debris arrested. Overriding all of these physical elements of planning, the growing maze of water rights and interstate compacts must be respected and our basin plans must conform with their requirements.

Under such river basin planning it is necessary to consider not only the water but all of the related resources of the basin and develop the one plan that will be to the best interests of all concerned. In the West, water holds the primary key to this development planning. This water resource is limited and in some areas completely utilized. When we speak of developing the "last of the water resources" let us consider the extent of these water resources for a moment. If all the unused water resources in the West were put to full use the maximum new area that could be irrigated, on the basis of water supply and available land, would be approximately 17 million acres. The total irrigable area yet possible of development is significantly less than that already irrigated. Thus, we see that we are truly planning to use the "last of the water resources."

Because we are beginning to approach full utilization of our western water resources, there arise economic, sociological, geographic, and



political problems. It is not the engineering problems, these are relatively simple, it is conflicting philosophies that harass and delay development. In many areas right now, interstate, intrastate, and even interagency arguments are raging between the theories of development on the basis of the greatest good for the greatest number, and the theory of complete in-basin development before any water exportation regardless of highest use. In other areas, there are conflicts between uses within basins. State laws dealing with water generally offer no help, but rather complicate the situation because they make no provision between so-called beneficial consumptive use and what might be called esthetic or recreational uses. These latter involve water for fish and wildlife, for maintenance of live streams and similar items.

Resolution of these uses, so far as Federal projects are concerned, ultimately must come from the Congress. Because there is at present great diversity, and even lack, in the Federal laws regarding water use, the Congress must consider each proposal on an individual basis. In order to assist the Congress in its deliberations, we expect to report without bias or favor that plan of development which we believe upon consideration of all factors to offer the greatest excess of benefits over disadvantages to the immediate region, and the Nation as a whole.

When the Bureau begins the study of a river basin or individual project, every agency with a conceivable interest in the area is notified of the purpose, scope and other details of the proposed investigation, and is invited to cooperate in the studies. Frequent contacts are made with representatives of the other agencies in the course of the studies to secure data needed for the report, to inform them of the progress of the studies, and to avoid duplication or overlapping of activities. Drafts of the final report are circulated to the interested agencies and their comments and recommendations are often extremely helpful in preparing the final report. Our final reports often include sections prepared by other agencies expressing their views of the proposal. On numerous occasions this policy of cooperation has extended to transferring investigation funds appropriated to the Bureau to such cooperating agencies as the National Park Service, Geological Survey, Public Health Service, and numerous universities and state agencies for special studies which they are well equipped to handle. An outstanding example of this policy in action resulted in the National Park Service's report entitled, "A Survey of the Recreational Resources of the Colorado River Basin," which brought into one convenient volume much data badly needed to supplement our studies.

The number of agencies having interest in the development of water and land resources in this country is amazingly long. At the Federal level, the Department of the Interior alone has eight such agencies normally and several others under the present emergency conditions. Other Federal agencies include several Branches of the

Department of Agriculture and the Department of Commerce, the Corps of Engineers, Federal Power Commission, Federal Security Administration, and the International Boundary Commissions.

Authorized Reclamation projects are built, after appropriation of funds by the Congress, generally by private contractors who receive the contracts on the basis of competitive sealed bids. Plans and specifications are drawn up by our Chief Engineer and his staff of specialists, drawing upon the experience of 50 years of such work, and assisted by the findings of the hydraulic and materials laboratories in Denver. Quality of workmanship and materials and strict adherence to plans and specifications are assured by a system of testing and inspection throughout the construction period. Bureau projects have achieved an enviable record of success and safety, due in large part to painstaking investigation and design and highest standards of construction.

The irrigation projects in operation are controlled primarily by the water users. As soon as the Bureau is assured that the project is operating smoothly and that a responsible water users' organization has been formed, we urge the water users to take over operation and maintenance. In some cases, the local interests have preferred to have the Bureau carry on with the operation and maintenance, and we have done so, on a basis of no cost to the Government. Major storage works, especially those involving multiple purposes can generally be more efficiently controlled by the Government and operation of such works is financed out of project revenues.

As I envision the job before us in continuing to conserve and develop our water resources, greatest emphasis must be placed upon even more closely coordinated activities between all agencies and all levels of Government. A legislative reform to bring all phases of water resource development under similar rules and regulations is required to assure orderly and efficient planning, construction, and operation of our major river systems.

## The Aims of the National Park Service in Relation to Water Resources

CONRAD L. WIRTH, Director of the National Park Service,  
Department of the Interior, Washington, D. C.

ANY representative of the National Park Service, I am sure, must find it especially gratifying, as I do, to address a conference of the American Planning and Civic Association. For we do not forget that it was the American Civic Association, of which this Association is the successor, which has more title to the claim of parentage of the Na-



tional Park Service than any other. We are concerned that the members and officers of the Association shall continue to be proud of that accomplishment.

It is also pleasant to come to Louisville for many reasons, of which one of the most important, to us, is that it is the home town of Tom Wallace. This good friend of ours is a prophet who is not without honor in his own bailiwick, as well as in many other places which have benefited from the vigor and courage that he has brought to the problems of conservation, and that we hope he can continue to bring for many years to come.

My assignment is to discuss the aims of the National Park Service with respect to water resources, and specifically with respect to river basin developments throughout the United States. For the past decade or more, the Service has had a direct and official concern with these developments, and the tasks we have undertaken in that connection have been many and varied.

I know that there are those who feel that the Service should limit its activities to the administration of the National Park System. My own conviction is that the work in which we have participated—river basin and reservoir planning activities, the salvage of historical and archeological resources, cooperation with the States in their park and recreational planning—needed to be done. I believe that the National Park Service was better equipped to undertake it than any other Federal agency. I also think that we have reason to be proud of what we have been able to accomplish, even though we wish it were more. I hope, in the course of this talk, to convince you that the extension of our responsibilities into these fields has been justified and logical.

Before going into that, however, I want to make a few brief observations on park waters. We have in the parks, as most of you know, a great many streams and lakes. They are useful, and I believe in using them. I believe in using them to sustain the animal and plant life of the parks, in accordance with the plan of a very good Planner. They are there to give pleasure to the eye and the ear; to make their contribution to man's enjoyment of God's out-of-doors, left as nearly as possible as God made it. They are there to help to bring peace and contentment to people who don't find it too easy to obtain them in this hectic era.

You will understand from this, I hope, that I do not look upon the national parks or monuments as places for water impoundments; that I intend to stand squarely against any proposals, not vitally necessary to the welfare of the Nation as a whole, which would in any material way affect the natural scene which Congress has said we are to keep unimpaired for the enjoyment of future generations. Here in Kentucky we have a case in point in the Mining City Dam Proposal of the Corps of Engineers which, if constructed, would occasionally hold flood waters

of Echo River in the lower part of Mammoth Cave, with resultant damage from siltation and probable injury to unique species of fish.

Ever since the National Park Service entered into an interbureau agreement with the Bureau of Reclamation in 1941 for a survey of the recreational resources of the Colorado River Basin, it has been engaged, in varying degrees, with river basin and reservoir planning activities. There are several reasons, and very good ones, why we have been willing and eager to perform such work.

First, we are in a better position to protect areas within the National Park System if we are able to keep abreast of the plans and investigations of the so-called water-resources planning agencies. And we are able to point out occasionally, with some effect, that there are resources of very great value other than potential dam sites in some of the country's streams, even though they are not within a national park or monument. Our defense of the Rogue River in Oregon, the Current River in Missouri, and the upper Sun River in the Bob Marshall Wilderness Area, Wyoming, are examples. I believe that these streams and many others like them are serving their highest use in their present natural state, and will continue to do so for the foreseeable future.

Most of us will admit, however, that there are times when dams of one type or another are justified in order to sustain our modern civilization. So, if a dam and reservoir are to be built, I think it should be so planned and operated as to minimize possible damaging effects on the landscape, and to provide maximum recreational opportunities in regions where need for water recreation exists. I might say at this point it has been our experience that whether you think a reservoir is needed for recreation or not, as soon as it starts filling, a demand for recreational use has been created.

To illustrate—15 years ago we thought that Lake Murray State Park in Oklahoma, in which a large artificial lake constitutes the principal attraction, was thoroughly adequate to meet the needs or demands for this type of recreation in that region. The Lake Texoma Reservoir was then created adjacent to Lake Murray. Last year Lake Texoma attracted nearly four million visitors, and attendance at Lake Murray State Park is still on the increase.

This situation is repeating itself throughout the country. In the mid-West, and in other regions where water recreation opportunities are not plentiful, an entirely new recreation pattern is manifesting itself in the lives of the people as a result of dam-building. It is necessary, therefore, for someone to provide, or at least to plan, certain basic facilities to permit the safe use and future orderly development of these areas. Most often the local people are not ready to face these problems or do not foresee them. Accordingly, the National Park Service has been cooperating with the Bureau of Reclamation and, to some extent, with the Corps of Engineers, in making initial or reconnaissance studies of



proposed reservoir sites. We have also made definite reports in many instances and have provided the constructing agencies with master plans for the recreational development of reservoir areas. We feel that these activities are closely related to other responsibilities of ours, and that it is just common sense that we should undertake them.

I think you know, too, that the Service is cooperating with several Inter-Agency Committees, which are composed of representatives of various land and resources planning agencies, as well as representatives of the States concerned, in developing basin-wide plans to bring better balance into the whole natural resources planning program. We were engaged in a minor way in river basin planning activities during the 30's, in connection with related activities of the now-defunct National Resources Planning Board and the Department's River Basin Committee. It was not until 1941, however, that the Service actually undertook any basin-wide studies. As I have said, it was during that year that we began a five-year study of the recreational resources of the Colorado River Basin.

A similar study was carried out in California's Central Valley from 1942 until 1944 and about this same time we began a study of the Columbia Basin Project. Funds for all of these studies were provided by the Bureau of Reclamation.

The Flood Control Act of 1944 authorized the Department of the Interior to participate with the Corps of Engineers, in formulating plans for the comprehensive development of the Missouri River Basin. The Secretary of the Interior called upon the eight Interior agencies concerned with land planning matters to cooperate fully in the project. Then, following a series of floods, power shortages, and other ills, the President designated the Arkansas-White-Red River Basin and the New England-New York area as critical regions. He directed that a study be made to develop more comprehensive and integrated plans of improvement of water and land resources than were authorized in the Flood Control Act. Accordingly, Basin Inter-Agency Committees were formed, consisting of representatives of the Departments of the Army, Agriculture, Interior, and Commerce, the Federal Power Commission, and the Federal Security Agency, as well as representatives of the Governors of each of the States lying wholly or partly within these respective basin areas. The target date for completion of the various Inter-Agency reports is June 30, 1954.

The immediate objective of our river basin studies is to formulate recommendations for the development of recreational facilities at reservoir areas, the recommended developments, if any, to be an integral part of a basin-wide plan. The basin-wide plan is actually the ultimate objective—a recreation land-use plan based on the scenic, scientific, archeological, historical, and recreational resources of the basin, and coordinated with other land-and-water-use plans for the basin.

A further responsibility of the Service is to negotiate agreements with state park or other local agencies for the administration of these recreational areas being developed at reservoir areas. We have for many years had close relationships with these agencies. The National Park Service is not in the business of reservoir development and management except in the rare instances where the reservoir areas might be regarded as having national significance, such as Lake Mead and Grand Coulee. I know of no others in this category which are under construction or even authorized. It has been suggested that Hells Canyon be considered for national recreational area status if and when the Snake River Project is authorized. Hells Canyon, as you probably know, was considered by many to be of national park or monument calibre if it had not been foredoomed by impending power developments.

In still another important way the Service is involved in the great problem of the conservation and utilization of water resources. The vast projects which have been constructed in recent years and which are scheduled for construction in the near future are bringing about significant changes in the historic American scene.

Important places associated with ancient man on this continent and important sites—historic houses, forts, battlefields, and trails—documenting the growth of our Nation are disappearing forever beneath the water of reservoirs and the blades of bulldozers scooping out irrigation canals. Of course some destruction is inevitable and right, since the real needs of present and future generations cannot be denied because of our desire to preserve the record of the past. Yet it must be recognized that archeologic and historic sites are among the greatest of our national resources. They are sources—and sometimes our only sources—of knowledge concerning the past; they are fonts of inspiration to ourselves and to generations yet unborn. We of today have a responsibility to see that no more of these resources are destroyed than is absolutely required. And when destruction is deemed necessary in the public interest, we must see that everything possible is done to preserve a record of the evidence we are obliterating.

Primarily on the basis of authority conveyed by the Historic Sites Act of 1935, the Bureau of Reclamation and the Corps of Engineers entered into a series of inter-agency agreements with the National Park Service for the performance of surveys to determine what archeological specimens and historical data should be recovered and recorded in reservoir areas and for the salvage of these irreplaceable materials before flooding.

The selection of the National Park Service as the agency of the Federal Government to direct and guide this survey and salvage program was no accident. The Historic Sites Act obligates the Secretary of the Interior to conduct a systematic inventory of historic and prehistoric sites of national significance and to obtain and preserve data



relating to them. The Secretary of the Interior has designated the National Park Service as the unit of the Interior Department to administer the responsibilities assigned by this act; and the Service is the sole executive agency of the Federal Government specifically charged by law with responsibility for the preservation of the national heritage in historic sites and objects.

In addition to its clear obligation under the Historic Sites Act, the National Park Service is charged with the responsibility for archeological and historical survey work in river basin and reservoir areas as part of the broad recreational study program specifically authorized by the Park, Parkway, and Recreational Area Study Act of 1936.

The reasons for including a study of archeological and historical values are obvious. Apart from their value for educational, inspirational, and patriotic purposes, historic sites interest and attract people, many of whom derive aesthetic pleasure and mental stimulation from visiting such locations, even if they learn little of hard fact. And, as evidenced by the crowds which attend such events as the annual Natchez Pilgrimage or make tours of historic houses in Virginia, the economic importance of this form of recreation is by no means minor.

Approaching the historical problems raised by water development projects from both the standpoint of the Historic Sites Act and of recreational needs, the National Park Service has carried out a monumental program of archeological and historical survey and salvage since 1945. Although the entire program is under the general direction of the National Park Service, the actual work in the field, particularly as regards archeology, has been undertaken largely by cooperating agencies. The Smithsonian Institution, under an agreement with the Service, has participated actively. Of special interest to you is the work that has been done by State universities and local historical societies operating under contract with the Service, an arrangement which has been economical of funds since these cooperating agencies also contribute financially to the program. Major historical surveys have been carried out entirely by the Service's own historical staff.

The accomplishments of the program can be realized by reference to a few figures. Acting under an inter-agency agreement with the National Park Service, the Smithsonian Institution in 1945 established a River Basin Surveys unit. Between that date and the close of the 1951 fiscal year, the Smithsonian Institution and cooperating agencies surveyed and carried on excavations in 225 reservoir areas in 25 States. During the course of this work, approximately 4,000 archeological sites were located and recorded; and of that number 545 were recommended for excavation or additional testing. Preliminary appraisal reports were completed for all reservoirs surveyed. Thirty-three major excavations have been made, and the materials recovered are preserved in national and local museums. The results of some of the work have been published

as technical reports in various scientific journals. A new series of bulletins, known as the "River Basin Surveys Papers," has been inaugurated by the Bureau of American Ethnology to provide for the publication of the reports resulting from the inter-agency archeological salvage program.

In the historical field, approximately sixty reservoir or basin reports have been completed. In addition, several special studies on sites slated for flooding have been published. Excavations at historic sites have thrown new and important light on frontier forts and trading posts in both the East and West, and the information gained has been recorded by means of reports, measured drawings, and photographs. Surveys have resulted in definite plans for historical interpretation at several reservoir sites. As a result, markers and museums will inform visitors of the history which occurred on lands soon to be hidden by impounded waters. The work yet to be done is vast and urgent.

As most of you know, the National Park Service is interested in state parks. We believe they are highly important parts of the Nation's over-all effort to preserve our scenic and historic resources and to provide needed opportunities for recreation. It is our aim to help the States to the best of our ability, when they seek our help, in the establishment and orderly development of their State Park Systems.

We have the responsibility, under the Park, Parkway and Recreational Area Study Act of June 23, 1936, to aid the several States and political subdivisions thereof in planning their park, parkway and recreational area facilities. Our State Cooperation Program is based on this act.

State park agencies are intensely interested in water resources. In many States, particularly in the South and in the West, the reservoirs which have been built in recent years have added greatly to their existing recreational resources. Many States have accepted this new opportunity and have established, through transfer or lease, a fairly large number of state parks on these reservoirs. Kentucky has established two on Kentucky Lake, a TVA reservoir; while Tennessee, Alabama, and North Carolina each have one or more parks on TVA lakes. Oklahoma and Texas are leasing land on Lake Texoma, the large Corps of Engineers reservoir located in the two States, for the purpose of establishing new state parks. And Nebraska and Colorado have agreed to operate the recreation areas being developed on one or more of the Bureau of Reclamation reservoirs in their State. While this type of area is called a state park by the States, they are better described according to the National Park Service nomenclature as state recreation areas. As far as the national and state park systems are concerned, the National Park Service would like to see the "park" designation applied only to areas that are distinguished by wholly natural scenery or by historic values.



On the other hand, the reservoirs that are being planned throughout the country may, in some cases, cause irreparable damage to existing state parks. The best known examples are the Alley Spring, Big Spring, and Round Spring State Parks in Missouri; Palmetto State Park in Texas; Adirondack Park in New York; and Curry-Bidwell Bar State Park in California—all natural scenic areas. Fortunately, strong public opinion has been able to defer them thus far. We need to be vigilant if we want to be successful in our fight to preserve our state, as well as our national, scenic, and recreational resources. We hope for the cooperation of state park agencies in fending off threats to the national parks and monuments; we believe we have a similar obligation to come to the assistance of the States.

I would also like to mention, in connection with this discussion of state parks, that the act of June 23, 1936, was enacted primarily for the purpose of authorizing a comprehensive recreation study which would provide data helpful in developing a national recreation plan. This study was progressing rapidly when World War II came along. We have never been able to re-activate this study. It seems to me that the time has come for us to start a new nation-wide study, in cooperation with the States, with the ultimate objective of preparing a sound park and recreation plan for the whole Nation. Our basin-wide studies, which we are conducting under the River Basin Program, are a start in this direction, but not more than a third of the country is included within the boundaries of these studies. The proper procedure, I believe, is to expand this program into a nation-wide recreation study, with the river basin program taking its proper place in the over-all picture.

All of these activities of the Service have a close relationship to the task originally assigned to it—that of conserving the natural and historic resources of the National Park System and providing for public enjoyment of them in such a way as to leave them unimpaired for the enjoyment of future generations. I feel that, in undertaking them, we have strengthened our ability to perform that task. I feel that we do perform it with a better sense of the place of the National Park System in the over-all scheme for parks and recreational facilities for the people of the United States. Certainly our familiarity with water resources and the economic use of them has not one whit lessened, but has instead strengthened, our conviction that the waters of the parks and monuments must be left alone; that they will perform their greatest service to the public only if they are retained in their natural state.

## Service of the Corps of Engineers

COL. LOUIS W. PRENTISS, Office, Chief of Engineers,  
Washington, D. C.

**I**T IS with a great deal of pleasure and pride that I meet with you here today to represent Lt. Gen. Lewis A. Pick, Chief of Engineers, and to discuss with you the aims and objectives of the Corps of Engineers in carrying out the mission assigned to it by Congress in the development of our Nation's natural resources, aims and objectives which are so closely akin to those of this outstanding civic planning group.

History has taught us that many ingredients go into the making of progress. Plans are the natural outcome of vision and dreams. Action is the logical follower of plans. And technological skill and know-how are necessary to direct that action and turn it into something more than just wasted motion. We possess these things in this great country of ours—and we have progressed.

This pooling of human resources toward a mutual goal must continue if we are to advance economically and remain nationally united and strong in the face of any enemy—whether that enemy be the man-made calamity of war, the nature-invoked tragedy of floods and storms, or the thoughtless depletion of our natural resources.

The Corps of Engineers began planning 177 years ago at almost the same time our Nation began its vigorous life when it threw up the protective breastworks at Bunker Hill and planned the Colonial fortifications that protected our shores. That planning has run the gauntlet of charting and improving the water routes that were the highways of the early settlers in their westward movement, to planning and building during World War II of complete cities for the Army, or Oak Ridge, Tennessee, which had a population of 75,000.

As the young Nation grew and expanded, changing needs became apparent and the thinking of the planners had to change accordingly. Small settlements established at strategic river valley locations grew to become great industrial centers and the rich fertile lowland was farmed and gave willingly of its bounty. But man-made structures necessarily encroached upon the rivers' natural flood plains, and periodically the rivers struck back with deadly and devastating blows. And with each attack, mounting flood losses resulted inevitably from the industrial development in our river bottoms and its corresponding growths in population and increases in agricultural and urban land values.

It became evident that the development and conservation of our water resources demanded a new kind of study—approached from a nation-wide standpoint. In 1936 Congress recognized this need. It adopted a policy for flood control improvements generally throughout the United States, and assigned the job to the Corps of Engineers.



Working directly with the people in the affected areas and with other Federal and state agencies, the Corps of Engineers has prepared comprehensive, multiple-purpose plans for virtually every river and stream of the Nation. Plans that consider a river basin as a whole and its relation to other river basins with which it may be connected. Flexible, up-to-date plans that keep pace with the changing, complex needs of our national economy and are designed to develop the rivers to the fullest extent and utilize the water for all beneficial uses. Plans that will enable our people and our industries—both present and future—to build solidly and firmly in the expansion of their economy, free from the fear of periodic floods; to reap the benefits of a plentiful rainfall by impounding the excess runoff and regulating its use to the advantage of all; to utilize the water for irrigation in regions of insufficient rainfall; to continue the beneficial exchange of the products of one region for the wealth of other regions by improving and increasing commercial navigation; to provide adequate and dependable water supply for domestic and industrial uses; to develop, where economically feasible, the hydroelectric power potential of a river basin; to reduce stream pollution; to aid in fish and wildlife preservation and the development of recreational facilities.

The flood control program of the Corps of Engineers—although almost completely stopped during World War II—has advanced to a stage where protection is now afforded to over 860 communities and over 26 million acres of rural land with an aggregate population of about 4,600,000 in the protected areas. But we all know that much remains to be done and progress oftentimes seems slow. Critics, however, would have it believed that no progress has been made, and floods, like the weather, are often discussed but nothing ever done about them. Something is being done about them! Floods are being prevented—but they are the floods you never hear about. Not a line is written, or a single photograph taken. For they are the floods that might-have-been but are averted by the control works already completed or in operation,—averted at an annual saving of over 300 million dollars in damages. This saving, augmented by other collateral benefits enjoyed, have more than half paid for the Federal and local cost of the projects—and their useful life is just beginning.

We in America possess a present and potential treasure in the form of our 28,000 miles of improved inland and intracoastal waterways. The dollars that have been invested in developing these waterways have meant increased traffic, a mounting flow of cargoes through inland channels, expanding use of port and harbor facilities and general substantial growth in industry, agriculture and commerce. The contribution of these waterways to our national defense was amply demonstrated during World War II, and the dividend being paid on that investment in our general economic betterment is illustrated in the more

than 51 billion ton-miles of waterborne commerce in 1950—a figure that exceeds all previous records. As our industrial expansion continues, it creates a corresponding increase in the demand for raw materials to be brought into our industrial centers at lowest possible rates—and the finished products moved to markets at cost that will permit producers to meet the prices of competitive products. The existence of this magnificent production source, however, remains potential rather than fact until all facilities for distribution—until all forms of transportation—are developed and expanded to the highest practicable degree; until all possible reaches of our tributary streams are made navigable and points on those streams are brought into the “magic sphere” of accessibility to low-cost waterborne commerce. The economy of our country’s future depends on our ability to maintain a competitive position with other world powers for all items commonly produced, and the cost of transportation of raw and finished products is a large item of the total cost of all products.

The conservation of our water resources takes on an almost do-or-die necessity when we consider the staggering amounts needed for municipal and industrial uses. An air-conditioning machine uses about 300 gallons of water a day; it takes ten gallons of water to make a gallon of gasoline; 33 gallons for a pound of steel; 100 gallons for a gallon of alcohol and 300 gallons of water to produce one pound of synthetic rubber.

Our cities, our industries, our development must not be stymied because of inadequate water supply. Our standard of living must not be lowered because of improper planning. But it is a problem that will require the best thinking of every responsible person—working hand in hand. It is a problem that presents a challenge—but we have never been a Nation to back away from a challenge.

In virtually every region of our country, mounting power demands have grown to serious proportions. In contributing to this vital need—both for national wealth and national defense—Corps of Engineers civil works projects either completed or under construction, have provision for an ultimate capacity of approximately 8 million kilowatts of hydroelectric energy, and plans—to be carried on over a long period of time—contemplate the development of over 15 million kilowatts.

In their comprehensive river-basin plans, the Engineers take full cognizance of the benefits to be derived in the health and well-being of our people from recreation and fishing and hunting activities. As a project nears completion, Master Recreation Plans are drawn up and the Corps of Engineers cooperates with state and local agencies in carrying out this development.

These reservoir areas—located in every region of the United States—not only attracted over 26 million visitors last year who enjoyed the swimming, boating, and other activities offered, but they yielded a



harvest of more than 24 million pounds of fish, with a food value exceeding 10 million dollars. And, studies reveal by the way, that less than 10 percent of the available sport fish are caught. Although these additional benefits are secondary, they are not unimportant—especially to the people living in the semi-arid regions of our country where such facilities were never before available.

The civil works program of the Corps of Engineers has a direct and tremendous influence on communities and its citizens. Therefore this improvement work is fundamentally a work of the people, and its progress and successful accomplishment depend in a large measure on public support. This is especially true in the case of large projects which involve many diverse interests. In this democracy of ours, this is as it should be, and Congress, recognizing this fact, established the wise policy of letting the responsibility rest solely with the people. Corps of Engineers civil works projects begin at the grass roots. They are initiated by the people in the localities where the need has been experienced. The Corps of Engineers does not participate, even in the planning and study phase, until and unless directed to do so by Congressional resolution. The thorough and open procedures by which waterway improvements are initiated, studied, reported upon and legislated, provide abundant opportunities for local interests, state and Federal agencies—collectively or individually—to express themselves at all stages of project planning. During the course of the investigations on a given project, widely advertised local hearings are held and written testimony is accepted—all of which is studied and made a part of the permanent record. These reports on waterway improvements are thus brought to the Congress reflecting completely the needs and desires of the people. The Committees of Congress also hold hearings. Thus the opportunity for public expression is encouraged at all times.

Another important element in the carrying out of the civil works program of the Corps of Engineers along democratic, down-to-earth principles is the Inter-Agency method of coordination and planning. Inter-Agency Committees in the Missouri and Columbia Basins were set up to coordinate plans drawn up by the different participating agencies. Also, there are now under way in the New York-New England area and in the Arkansas-White and Red Basins, comprehensive studies in which all affected Federal agencies and States are combining their efforts in planning their basin-wide developments. I was privileged to serve as Chairman of the Arkansas-White-Red Basins Inter-Agency Committee from its inception. Its progress has been good, and I believe that the cooperative nature of the Inter-Agency Committees will permit a development of a truly comprehensive and integrated plan for the conservation and development of our soil and water resources.

In addition to cooperating with interested state and Federal agencies—the Department of Agriculture in the several fields in which it is

expert; the Bureau of Reclamation and other services of the Department of Interior; and the Federal Power Commission—the Corps of Engineers also cooperates and works with local levee and conservancy districts.

The Muskingum River Watershed in Ohio—about which a prominent member of your group, Mr. Louis Bromfield, has often written—presents only one example of such cooperation. In 1933 the Muskingum Watershed Conservancy District—which had been created for the purposes of flood control, water conservation and work incident to the development of the water resources of the basin—made application to the Federal Emergency Administration of Public Works for inclusion of the District's project in the comprehensive program of public works, and for aid in its financing and construction. In December 1933, an allocation of over 22 million dollars was made by the Public Works Administration to the Corps of Engineers to aid in financing the construction of the project. In 1934, an agreement between the Conservancy District and the Corps of Engineers was signed and work was commenced by the Corps of Engineers on an official plan—based upon detailed studies made by the Engineers—of fourteen reservoirs for flood control, water conservation, recreation and allied purposes.

The development of the conservation and recreational features of the reservoirs was the responsibility of the Muskingum Watershed Conservancy District, and the maintenance and operation of the flood control features of the project became the responsibility of the Corps of Engineers.

Construction was completed in 1938 on the fourteen dams and reservoirs—reservoirs which increased the inland water resources of Ohio by approximately 50 percent and have since been serving the people of the region in flood protection, agricultural development, recreation and in many other beneficial ways.

As Congress directs, the Corps of Engineers will continue to work with and for the people of the Nation in carrying out its program—a program that has as its basic objective the concept that river-basin development is the use of land and water resources in the most advantageous way from an over-all public viewpoint.

Forward-looking national and local organizations are rendering invaluable service in alerting the American people to the need—the urgent need—for conservation.

The checks and balances imposed by nature have been disturbed by civilization. Timbered lands have been cleared. Land suitable for agriculture has been bared of protective covering. Man-made structures have been built in the flood plains, lessening the capacity of the streams to carry floods. Unprotected hillsides are subject to erosion. Stream beds have become clogged with silt and other debris.

Rich bottom lands are harrassed by recurring floods and in some



localities only one crop matures for every three or four that are planted.

Flood control works cannot retard erosion of the soil resulting from improper land-use practices. On the other hand, proper soil conservation practices cannot eliminate floods—there were floods on our rivers long before the white man's plow bared top soil to wind and rain.

Consequently our programs—one for the preservation of the land, and the other for protection of the land from floods—are natural complements to each other. Together they can end the needless dissipation of precious resources.

Techniques of soil conservation and restoration must be given the widest possible application. All measures for flood control must be studied. Reservoirs, levees, channel and drainage works must be built wherever the need is apparent and the project can be justified by sound engineering and sound economics.

Your efforts and those of others similarly engaged, are bringing encouraging returns in creating general public alarm over depleted natural resources, in community measures for their restoration and preservation, and in wise national legislation.

The Corps of Engineers depends upon and looks forward to this wholehearted participation of all responsible citizens. For only by the full coordination of the efforts of all individuals and all agencies having a responsibility in River Basin Development can we—and our future generations—share the rich rewards to be realized in the maximum development of our resources.

## National Water Resources Policy

W. W. HORNER, Consulting Engineer, St. Louis, Mo. and  
Chairman—Water Policy Panel, Engineers' Joint Council

THE GREAT expansion in the development of our water resources, which has culminated in the current confused situation, is a matter of the last twenty years. Up to about 1930, water resource matters were predominantly at the local and regional level, in developing urban water supply, private and locally public irrigation projects, measures for flood protection along the rivers by levees under local levee and drainage districts, and flood protection on a larger scale through "Conservancy Districts" such as the Miami. Federal responsibility and activity was largely confined to the rivers and harbors navigation work of the Corps of Engineers, and to the larger irrigation projects under the Reclamation Act.

In the late 1920's, problems of the major drainage basin and of Federal participation came up for the first time with respect to the "Boulder Canyon Act" and the "Hoover Dam," and at the same time in the development by the Army Engineers of an over all plan for flood protection in the lower Mississippi Valley. The third distinctive item, at this turning point period, was the creation of the Tennessee Valley Authority, involving a new concept of Federal responsibility for all resource development over the whole, of a major drainage basin.

The great depression and the "made work" provided an opportunity for carrying out multi-purpose water projects under Executive order, and out of this, we have Grand Coulee and Bonneville as a major excursion by the Federal government into Federal public water power. There were also such unhappy projects as the Passamaquoddy Tidal Power and the Trans-Florida Canal.

In the middle '30's, under acts of Congress, the Federal government assumed full responsibility for all flood control, with little or no requirement for the local financial participation. About the same time, a series of Amendments to the Reclamation Law laid the groundwork for multi-purpose projects which would include flood control, power, water supply and recreation as additional objectives in what were assumed to be primarily irrigation projects. Under these Amendments, part of the cost of irrigation projects could be charged off against the Federal taxpayers as non-reimbursible flood control, and irrigation projects so expensive as to be far beyond the ability of the irrigators to repay, came to be subsidized by revenues from the power component, including the interest earned, and leaving the Federal taxpayers to pay the interest on the investment. In the last few years, it has been proposed that urban water users be *permitted* to pay more than the cost allocated to them, as an additional subsidy to expansive irrigation.



It will be noted that the taking over of flood control by the Federal Government, and the expansion of irrigation into projects beyond the ability to repay, have been under separate acts of Congress. Projects of these types have been considered in Congress by separate committees, and the administrative phase has been and is being handled by different organizations.

In recent years, administrative confusion has been somewhat relieved by voluntary and extra-official inter-agency committees. In the past few years, there have been violent arguments as to the desirability of continuing the Federal water resource program on the one hand utilizing agencies and inter-agency committees, and on the other organizing the whole country in the Valley Authorities. I would like here to express my personal opinion that this controversy is untimely and completely fails to go to the heart of the trouble. The logic of the situation is that we need not argue about who is to administer the program until we have an adequate, equitable and well defined program to administer and, at the present time, we have no such thing. It would be my recommendation that we set aside entirely the administrative controversy and concentrate on the development of a sound policy. If this is ultimately achieved, then we can, to much better advantage, visualize the administration that is needed to carry it out.

From the above opinion, you will see that I have not been in favor of the recommendation of the Hoover Commission for transferring the Army Engineers work to the Department of the Interior and, in consequence, I naturally feel that the President's recent proposal for so doing, even if it became effective, would do little to clarify our water resources program. This program can never be satisfactorily re-organized until Congress itself has clearly stated certain major features of national water policy, has embodied these features into major principles, and has amended the various acts so that all will be in harmony with these principles. It is primarily the outlining of the concept of such principles, as developed by Engineers Joint Council, that I would like to devote the remainder of my time.

Engineers Joint Council is a coordinating agency for the five great national engineering societies covering the fields of civil, mechanical, electrical, mining and chemical engineering. Its function is to coordinate society interest, and particularly to carry out the professional and public service projects which the majority of the societies may feel to be desirable.

In 1947, E. J. C. set up a committee to study national water policy. In 1949 E. J. C. was preparing to petition the Congress to create a joint congressional commission to review and restate national water policy. To that end, it had made contacts toward cooperative action by other organizations such as the American Water Works Association, the National Water Conservation Conference and the American Farm Bureau.

Before this petition was presented to Congress, President Truman created a Water Resources Policy Commission by executive order. There is some opinion that this action was inspired by the E. J. C. proposal. E. J. C. thereupon set up an organization to prepare and present to the President's Commission, often referred to as the "Cooke Commission," its ideas of the principles which should govern water policy. For this purpose, a group of more than eighty of the leading engineers of the country with associated economists, agriculturists and recreational planners, was divided into task forces covering each of the major phases of water resources and use. The statements prepared were embodied in an over all report which was presented to the "Cooke Commission." This E. J. C. task group was remarkable for its enthusiasm and for the amount of time which it donated. It has been estimated that the service involved was equivalent of about a quarter of a million dollars of normal engineering fees.

The "Cooke Commission" presented its report in January, 1951 and also prepared proposed legislation to put its recommendations in effect. The legislation, however, was only made public in the spring of 1952.

In the meantime, President Truman had instructed the Bureau of the Budget to consider the legislation as proposed by the "Cooke Commission" and after conference with the Federal agencies, prepare its own proposed draft. Engineers Joint Council has had an opportunity again to present its ideas, to the Bureau of the Budget, in the course of this last procedure.

A reading of these two reports gives an interesting picture of the inconsistencies and incongruities under existing Congressional enactments, particularly with respect to standards of economic justification and to the assignment of cost as between those benefitted and the general Federal taxpayer. At the risk of repetition, I would like to point out some of these.

Under the original Reclamation Acts only the Federal credit was involved and a financially feasible project was one from which the beneficiaries or the water users paid back the whole cost to the Federal Government. Under the amendments, the water user is now to pay what the administrator thinks he is able to pay and no more. Where hydro-electric power is included with irrigation, the cost allocated to it is to be repaid with interest but the interest need not be returned to the Treasury. It may be used to subsidize otherwise infeasible irrigation.

Urban and industrial water supply in multi-purpose projects generally pay back to the Treasury the whole cost allocated to them but not necessarily with interest. In some proposals, urban and industrial water users will pay more than their share with the difference going to subsidize otherwise infeasible irrigation.

Under the Flood Control Act, projects may be carried out entirely at the expense of the Federal taxpayers whenever the benefits "to



whomsoever they may accrue, exceed the cost." Thus farmers, who are located in flood plains, and are finding it worth while to operate even with the loss of one crop out of say five, are given protection for the fifth crop and the removal of flood hazards at the expense of the general taxpayer. Also, for example, idle land so frequently flooded so as to be unusable may come under flood protection and become valuable; enhancement of land values accrues to the owner, but under present procedure such unearned movements may enter into the total of benefits listed as justifying expenditure of the Federal taxpayers money.

The theory of reduction of flood damages as an obligation of the Federal taxpayer has its most practical application to reservoir projects on the big rivers, where the beneficiaries may be so far removed from the project as to be difficult of identification, and assessment. But Congress frequently instructs the Army Engineers to report on small area projects where the beneficiaries are close at hand, and often quite capable of financing the project; nevertheless, if the benefits exceed the cost, the Federal taxpayers pay the bill. This procedure is approaching the absurd, under reports reaching Congress from the Department of Agriculture, which also gets into the act, for small reservoirs controlling ten to a hundred square miles, with possibly 80 percent of the benefits occurring within a few miles downstream, all however proposed and recommended as non-reimbursible projects.

Under one current theory called the "Basin Account," as developed within the Department of the Interior, individual projects need not show economic justification providing the aggregate showing of all projects in the basin indicates a satisfactory ratio. In other words, good projects may subsidize poor projects.

Situations such as these come about gradually under the pressure of special interest groups on the Congress, and through the willingness of Congress to take piece-meal action. It is not surprising that the President's Water Resource Policy Commission should state:

There is today no single, uniform Federal Policy governing comprehensive development of water and land resources.

This is a time for action based on sober consideration of objectives and methods. Continuation of present policies, or lack of them will mean a continuing waste of money and effort in the pursuit of conflicting goals.

The *recommendations* of the "Cooke Commission" parallel those of E. J. C. in many respects. If these recommendations were embodied into law, a considerable clarification of national policy would be achieved. However, Engineers Joint Council considers that the underlying philosophy of the "Cooke Commission" report differs materially from its own concepts as to a number of matters. Since these differences are fundamental, they will be considered first.

1. Extent of Federal Responsibility. The primary statements of E. J. C. are as follows:

Consideration and control of the water of the U. S. are in the national interest but not necessarily a function of the Federal Government. On the contrary, that which can be done by the individual should be done by him and that which requires collective action should be done at the lowest governmental level practicable.

Local, state and private responsibility should be preeminent and be consciously and effectively nurtured and extended to water project programming, execution and financing.

The Cooke report, on the other hand, is throughout based upon an assumption of Federal domination of all water resource planning. It proposes that planning, as a basis for Federal participation, be carried out under drainage basin committees made up primarily of Federal representatives with the local and regional agencies having a minority representation. The planning policies under these basin committees are to be controlled and checked by a Federal Board of Review appointed by the President.

2. Economic Justification. There is a distinct difference in the matter of justification of projects. E. J. C. states in effect that the justification, for the expenditure of the Federal taxpayers' money on water resource projects, should rest on a sound accounting, and a showing that the benefits which are directly computable in dollars, should be materially in excess of a well founded estimate of cost. It goes farther, that for multi-purpose projects, the allocated cost of including each function such as flood control, power, irrigation, etc., should be less than the computed benefits from the inclusion.

The "Cooke Commission" comes out for sound accounting but in the end leaves the justification of projects to a considerable degree dependent upon administrative judgment. It states "That judgment becomes a matter of collective common sense which should be based on the dollars-and-cents estimates, but which must transcend them in order to give due weight to intangibles." And again "The government has come to be recognized as an agency for social and economic action which need not follow the rules of the private capital market in order to obtain the necessary capital or to make investment decision." And again "Financial costs and returns should be considered in analysis, but financial feasibility alone should not determine the desirability of a program or policy."

It is obvious that even with agreement on much of the detail of water resource development, the following of one or the other of these philosophies could result in completely different programs, and entirely different impacts on the national economy.

Financial Responsibility. In contrast to the two matters above where E. J. C. and the Cooke Commission are guided by somewhat different philosophies, there is one key matter with respect to which the two reports are in close agreement, that is the allocation of financial responsibility. While stated in slightly different words, both reports



say flatly that local and regional agencies should be required to pay such part of the cost of projects as might be in proportion to the benefits which would be created. The "Cooke Commission," on a background assumption that water resource development will be primarily a Federal function, suggests that the State and local agencies might assume the responsibility for collecting, and contributing to the Federal Treasury, such amounts as local and regional benefits would indicate to be equitable.

The E. J. C. report indicates the belief that such a distribution of cost would not only be equitable, but that a policy to that effect would go far to stop the demands of local pressure groups for the expenditure of Federal funds in their areas. So long as there is the hundred percent Federal financial responsibility, local groups and special interests are incited to ask for any and all projects that might be to their benefit. Under this system, projects that are authorized are not necessarily those of greatest value to the Nation, but often those for which the greatest pressure is imposed.

If it were clearly stated, as a fundamental of national policy, that Federal expenditures would only be considered by Congress, when local agencies were shown to be prepared to make substantial contributions, then all such projects would be thoroughly examined by the local people and their value to the local area would be indicated from what the people of the area would be prepared to pay. This would largely do away with the current custom of sending delegates to Washington to get something for nothing.

In conclusion, I want to revert to water resource planning. The "Cooke Commission" proposal for Drainage Basin Committees is fundamentally sound, but does not get back to the source. It visualizes large basins such as the Missouri and the Arkansas. When we design a large building, we don't start with the lower stories, we design the top floor first and carry the loads progressively down. Water planning should start at the headwaters of each sub-basin of say a few thousand square miles and a complete plan for each such basin, in its own interest should be developed. This should be regional responsibility but the talent and experience of the Federal Agencies should be available in advisory capacity. Thereafter the problems and possibilities of the main streams could be faced with a full background of desirable upstream development. This procedure is not only logical, but would also give the balanced answer to the continuing controversy between the exponents of upstream conservation and the demands for larger main stem structures.

## REGIONAL RESOURCES

### Tennessee Valley Authority

GORDON R. CLAPP, Chairman of the Board, Tennessee Valley Authority,  
Knoxville, Tenn.

**T**HE TVA has been at work on the Tennessee River and in the Tennessee Valley watershed for 19 years. During that time TVA has been carrying out the instructions of Congress to plan, build, and operate a system of dams for the maximum amount of flood control, the maximum development of navigation, and, so far as was consistent with these two purposes, the maximum generation of electric power.

Here is the record of our stewardship in these assignments:

Since 1933 TVA has built 18 major dams on the Tennessee and its tributaries and now has 2 more under construction. With 10 previously existing dams, some purchased from a utility company and some owned by a private corporation but operated under TVA direction by agreement, this system of 28 reservoirs provides 11,720,000 acre-feet of storage for flood control at the beginning of the flood season each year—about January 1.

Conservatively estimated, the average annual benefits of TVA flood control in the Tennessee, lower Ohio, and lower Mississippi are more than \$11 million. Significantly, less than half the benefits apply to the Tennessee basin—the greater portion resulting from operation of the TVA system to reduce crests on the lower Ohio and Mississippi Rivers.

Illustrating the benefits outside the Valley is the contribution made by flood regulation on the Tennessee to reducing crests on the lower Ohio and Mississippi Rivers during the flood in January and February 1950. At that time operation of the TVA reservoir system helped make it unnecessary to open the fuse-plug levee of the Bird's Point-New Madrid floodway in southern Missouri, with resultant saving of millions of dollars in an area of 200 square miles.

In the Valley itself, the TVA reservoir system has averted flood damage of more than \$45 million at the city of Chattanooga alone. The saving at that one city is more than one-quarter of the total TVA investment in flood control facilities.

However, as TVA has pointed out with a regularity which may be monotonous to the people of Chattanooga, the system of reservoirs alone does not give that city complete protection from such great floods as occurred in 1867, 1886, 1875, and 1917, or from an even greater flood which our engineers emphatically assert will some day occur. Fortunately, as planned by TVA, the upstream reservoirs make it possible for Chattanooga to achieve complete protection through construction of a supplemental system of levees. Such a system has been recom-



mended by both TVA and the Corps of Engineers. The next step is up to Chattanooga.

Navigation, haphazard and trivial on the treacherous Tennessee prior to TVA, has become an important factor in the region's economy. The 630-mile channel from Paducah to Knoxville, created by the TVA reservoirs, is a vital link in the Nation's inland water way system and contributes to the expanding economy of both the region and the entire Nation.

River traffic, which was less than 33 million ton-miles in 1933, reached an all-time high of more than 589 million ton-miles last year. And with the tremendous gain in the quantity of traffic there has been a comparable increase in the quality of the commodities moved. Sand and gravel once constituted the bulk of river shipments. Now petroleum products, coal, grain, aluminum, iron, steel, and finished articles account for a major portion of the traffic and emphasize the rediscovery of the economic interdependence of the Southeast and the Middle West.

Savings to shippers in transportation costs as a result of this navigation channel in 1950 were estimated conservatively at more than \$7 million—an amount equal to all Federal expenses for operation, maintenance and depreciation of the waterway, plus a return of  $2\frac{1}{4}$  percent interest on the navigation investment.

Hydroelectricity is produced by the same dams which control the floods and sustain the navigation channel. Production of this power without endangering the primary function of flood regulation is made possible by a unified system of water control, plus the designing of TVA dams for multiple-purpose operations.

In 1933 the installed electric generating capacity in the entire TVA service area was only 814,500 kw. Today, the installed capacity of the integrated TVA system is 3.8 million kw and TVA currently is engaged in an expansion program, including the construction of 5 major steam plants, which will increase that installed capacity to 6.8 million kw by 1955 in order to keep up with the rapidly increasing demand for power in the Valley.

In 1933 there were only 225,000 residential power consumers, with an average annual use of 600 kwh apiece. Today there are almost one and a quarter million consumers and the average annual use per consumer is over 3,700 kwh—more than six times greater than it was in 1933.

Twenty years ago the Valley was a predominantly agricultural area. Today, as a result of a phenomenal industrial expansion in the region, income from that source outranks agricultural income as a factor in the Valley's economy. In 1929 persons engaged in agriculture received about 23 percent of the total regional income, compared to only 15 percent for workers in manufacturing. By 1950 the positions were reversed, with manufacturing accounting for 20 percent of the total

regional income as compared to 12 percent for the people engaged in agriculture.

During that period industry in the Valley not only expanded more rapidly than agriculture in the area, but its growth was at a faster rate than in either the Southeast or the Nation as a whole. Since 1929 manufacturing income has increased by 346 percent in the Valley region as against 309 percent in the Southeast and 201 percent in the entire Nation.

Despite its changed status, relative to industry, tremendous gains have been made in the productivity and stability of agriculture in the region. These gains are reflected primarily in a basic shift in the agricultural economy of the Valley. Capital investment, including machinery and fertilizer, has been substituted for manual labor in substantial degree. Close-growing cover crops, which hold water on the land and protect the soil and provide the basis for livestock production, have replaced row crops on the slopes on thousands of farms.

Because of the natural low fertility and the exhaustion as a result of over-cropping and erosion of much of the soil in the area, these adjustments depend, in large measure, upon the increased and improved use of fertilizers.

TVA's laboratories and plants at Muscle Shoals have contributed new processes and new materials which help meet the need for these fertilizers, through research in and development of new and improved products.

The test-demonstration program, in which 67,588 farmers have participated since its beginning in 1935, has been a major factor in bringing about this change in the Valley's agricultural economy. Individually, and in community groups, these farmers have demonstrated, to themselves and their neighbors, what can be done to restore the fertility of the soil, provide a better living for themselves and their children, and strengthen the over-all economy of the region and the Nation.

Because 54 percent of the Tennessee Valley's land area is in woodlands, proper management of the timber areas is important both as a direct economic benefit and as a factor in proper water control on the land through watershed protection. Though great strides have been made in utilizing the forest resources of the area, as yet only the surface has been scratched. In 1932 there were 2,800 wood processing plants in the Valley, employing 44,000 persons. By 1947 this had increased to 6,600 plants, employing 57,500 wage earners. And the untapped potential still is so great that over-all application of sound forest development and management can increase the current \$200 million annual income from this source almost five-fold.

Total economic gains chalked up since 1933 are revealed by the fact that the average per capita income in the Valley, which was only 42



percent of the national average in 1933, had increased to 56 percent in 1950.

The recreation bonus from TVA's multi-purpose projects is great. But the most gratifying feature of TVA's recreation program is that full responsibility for development of the recreation resources of the lakes and the operation of the facilities has now been accepted by state and local public agencies and by private enterprise.

TVA participated in building 5 demonstration parks, but in 1947 it withdrew completely from the field of direct recreation development and operation. In the 5 years since that time the value of recreation facilities on TVA lakes has increased from \$12.7 million to \$31 million. Valley States are now operating and developing 12 state parks, and counties and municipalities 38 local parks on the lakes. Private recreation development ranges from modest boat docks and fishing camps to the largest single resort operation in the entire Valley.

A report by the Council of State Governments revealed that, as of 1950, there were more state and local agency parks on TVA lakes than on all other multi-purpose Federal developments in the country. And the extent to which these facilities are used is indicated by the Council's findings that 7 of the 10 reservoirs in the United States receiving more than a million visitors per year are TVA lakes.

Two decades ago malaria scourged large sections of the Tennessee Valley. Obviously the creation of the TVA lakes posed the possibility of conditions which could have resulted in an increase in the incidence of this plague. Just the opposite has happened. Along certain sections of the river there was, in 1933, a 30 percent incidence of malaria. As a result of the elimination of breeding spots, water level management, and spraying there has been a steady decline in the number of malaria cases. Since 1948 the annual surveys have revealed no malaria.

I have cited, briefly, some of the major physical accomplishments in the Tennessee Valley during the past 19 years. The record is one in which we in TVA take great pride—not because it is the record of our achievements, but because it is a record of TVA and the people and agencies of the region working together in a strong, flexible partnership.

What has been done has been the result of the people of the region working together with the Federal Government, represented by TVA, in a free association whose bonds are simply common principles and objectives and mutual respect. As a matter of policy, based upon provisions in the TVA Act, TVA has encouraged the States and the local agencies, private enterprise, educational institutions, and others in the Valley to assume greater and greater responsibility in the development of resources. In virtually every respect of resource development state and local agencies have grown in size, activity, and initiative.

The achievements of the people in the Tennessee Valley and TVA working together are significant because they testify to what can be

done when the problems and opportunities of a region are considered and approached as a unit, and the various parts of that development are treated in the perspective of their relationship to the over-all picture, rather than as isolated or unrelated problems.

As a matter of administrative convenience TVA is departmentalized along the lines of its major functions. But anyone watching the interrelation and integration of interests involved would soon realize that, in practice, such division is more fiction than fact. In application to the development of the region, the problems of chemical engineering cannot be divorced from those of agriculture. Those of agriculture cannot be separated from forestry. Forestry is directly related to industrial development. Industry affects the demand for power and river transportation. These activities, and all others, in turn, relate directly to the control of the river for flood regulation. No one part of the program is an independent and self-sufficient unit. Each activity is a part of the whole. The world of resources exists for people to live and grow in—not as pieces for experts and special groups to split up among themselves.

There still remains a great deal to be done. The river has been harnessed and put to work, but the task of developing and making full and effective use of the regional resources is far from finished. There are still vast opportunities ahead for converting the rich resources of the region into better living and greater prosperity for the people. One of the most encouraging aspects of the situation today is that in the past 19 years we have constructed a firm foundation for future building and that the people of the region are facing the coming years with a renewed strength, a sense of purpose and direction, and a well-grounded confidence in their own powers.

The multi-purpose dams on the streams of the Tennessee River system and the programs of soil and forest conservation on the lands of the Tennessee Valley region provide dramatic proof of the interrelation between different aspects of resource utilization. Moreover, the experience of TVA's integrated approach to regional development demonstrates that valuable byproducts can be secured if planning and labor are harmoniously joined together with the forces of nature.



## “The Dammed Missouri Valley”

RICHARD G. BAUMHOFF, Reporter for the St. Louis Post-Dispatch  
and Author of “The Dammed Missouri Valley” (Knopf, 1951)

IT IS A genuine regret to me that I cannot accept the privilege of personal participation in this program along with a number of good friends and the other distinguished persons. My absence is due to the dammed Missouri valley; it should be noted, incidentally, that this is spelled with a double *M*, although I have occasionally seen the following consonant used by accident or design. My itinerary calls for my presence today at a Missouri Basin Survey Commission hearing at Bismarck, N. D. (It should be pointed out that I offer this paper by invitation in my personal rather than my professional capacity.)

Floods, naturally, catch the attention and the heart of the Nation when the far-flung Missouri River basin goes on one of its rampages. They are dramatic, but they are only a fraction of the story. The problem in reality is to make—and fulfill—comprehensive plans for control and useful application of all the water, land and related resources of a big, relatively new and relatively undeveloped part of the country.

This broad, funnel-shaped area is perhaps less well known to the average American than any other big segment of the Nation. Some idea of the Missouri basin's size and importance may be gained by pivoting it in imagination on a map of the continent: turn it on its southeastern point, the confluence with the Mississippi near St. Louis, and the other end would reach to the northern border of Guatemala; twist it on its northwestern extremity, in the Rockies of southern Alberta, and the reverse end would stretch to the eastern border of Alaska. Water resources are the key to this one sixth of a Nation; their wise handling has profound significance for the present and the future.

The white man began moving into this basin scarcely a century and a half ago and has been its nominal master hardly three quarters of a century. Although in comparatively recent years surprising progress has been made in taming some stretches of this 2,465-mile river it remains today an unruly giant of tremendous power for good or evil. Almost every year there is a flood somewhere in this valley, and that is when the general public comes to passing realization of the need “to do something about it.” Notably, there were the floods of 1844, 1881, 1943, 1947, 1951 and 1952. Engineers used to base their calculations on the records of the 1844 flood in the lower valley and the 1881 flood in the middle valley. Crests and volumes were generally lower in 1943 and 1947 than in the nineteenth century inundations, but the damages and loss of life were more fearful because of man's encroachment on the flood plain.

The railroads and the highways adopted valley routes; factories and towns naturally followed. Farmers put their homes, their barns,

their livestock, their machinery in the fertile bottomlands, which are so much more productive than the uplands in much of this basin. Historically, this invasion of the flood plain has been a startling economic gamble. It reached its apex in the calculated risk at the twin Kansas Citys, where tremendously costly and vital installations of rail yards, industrial plants, airports and other works of man occupy the river's natural domain.

Man's answer to the water's challenge is essentially threefold: big dams on the main stem and important tributaries; broad, high earthen levees for the lowlands, plus concrete walls at the cities; and agricultural measures to hold the soil—and the water—on the uplands. Unfortunately, the latter is largely only a plan still, and likewise unfortunately there are some earnest advocates who think these measures alone would do the trick, whereas it is logical to an unbiased observer that all three remedies are necessary.

At the Kansas Citys the levees and floodwalls were built as high as physically and economically feasible, and admittedly upstream reservoirs were required also to control a big flood. Controversy in Kansas over dam and reservoir plans of the Army Engineers and, to a lesser extent, the Bureau of Reclamation, has prevented so far construction of certain dams there. The terrific rains of the spring and summer of 1951 came and the record-breaking torrent rolled down the Kaw valley and over the Kansas Citys. At first the Army Engineers maintained that several of the dams they had previously proposed would have protected the Kansas Citys. Investigation showed that the rainfall pattern was such that still more flood storage was needed, and by last December the Army Engineers were calling for 22 additional dams in the Kansas sub-basin, at a cost of \$300,000,000, to prevent a recurrence of the disaster.

Last month's unprecedented flood in the middle Missouri, pouring down from Bismarck, N. D., to a point between St. Joseph, Mo., and the Kansas Citys, was different. It was predictable and was in fact predicted by the Army Engineers and others, so that people and goods were evacuated and nearly all the Federally built protection works were strengthened and preserved. That flood came from the quick melting in Chinook winds of an unusually heavy cover of snow and ice on the Great Plains, and the consequent breaking up of the ice in tributary streams. All this water reached the Missouri above the sites of three big dams under construction by the Army Engineers in the Dakotas. The Army Engineers declared—and the circumstances seemed clearly to uphold them—that this flood would have been completely controlled, if these dams had been finished within the time originally scheduled. Inferentially, they blamed Congress for not providing the funds to maintain the construction schedule. President Truman's off-the-cuff talk at Omaha really was shooting at Congress, although he purported to be censuring the Governors of the middle Missouri and



upper Mississippi valleys for "dragging their feet," whereas actually most of the Governors have been trying hard to get Federal funds to carry out the program.

At the crest of the flood, water ran past Sioux City, Iowa, at a rate in excess of 207,000,000 gallons every minute. The Missouri, normally not much of a river in that section, spread across the valley to an estimated maximum width of 17 miles between Sioux City and Omaha, Nebraska. All that water had to pass through a 1,200-foot bottleneck between levees and floodwalls with Omaha's industrial district on one side and a large sector of homes at Council Bluffs, Iowa, on the other. With the 1881 record in mind, these protection works were designed with five feet of freeboard as a safety factor, but the flood reached to and over their tops as originally built. The saving of Omaha and Council Bluffs was a week-long peacetime battle of the most intense urgency and suspense. Twenty-five thousand civilians and soldiers and countless trucks and other machines toiled day and night to raise the barriers by two to three feet with earth, rude lumber and sandbags. To the lasting glory of the Army Engineers and the community, the battle was won. People of Louisville can look back about 15 years and think what it would have meant if a similar victory could have been achieved in their city.

Well, the present plan for the Missouri basin calls for more than 100 large and medium-sized dams, on the Missouri itself and on numerous lesser rivers. It is doubtful if any one knows for sure today just how many dams to count in the plan, because of changes, past and in prospect. Various writers seize on various figures; some take 105 from old reports, while the nearest approximation I have been able to determine was 147 as of last year and that is likely going to change, especially if the new scheme for Kansas is taken on.

The biggest dams are those of the Army Engineers, for the middle and lower valley, where more precipitation accumulates. The Bureau of Reclamation dams are chiefly in the upper reaches and on middle-sized or smaller streams. If and when the Department of Agriculture gets into the construction job it might build, among other things, 14,000 to 16,000 small dams on creeks and little rivers. A few of the Army and Reclamation dams have been completed so far, and quite a number are under construction now. On the Missouri River, Reclamation is erecting a good-sized dam at Canyon Ferry in the mountain country near Helena, Montana, while the Army Engineers are building three big ones and starting a fourth, and holding a fifth in abeyance. Biggest of all is the Army's Garrison Dam, now well along in west-central North Dakota. Its other projects on the Missouri are Oahe Dam, central South Dakota; Fort Randall Dam, south-eastern South Dakota, and Gavins Point Dam, on the South Dakota-Nebraska border. At Gavins Point only preliminary construction has been authorized and a real start depends on allotment of funds by Congress. The Army has de-

ferred Big Bend, another Missouri River dam in South Dakota. It has had since depression days the big Fort Peck Dam in eastern Montana, of demonstrated usefulness.

Much of the water that drains out of the Missouri River naturally comes from larger eastern tributaries, the Kansas, the Osage and northern Missouri's Grand River. People in these three sub-basins have shown a marked reluctance to have reservoirs intrude on their good bottomland farms, and the only structure actually built by the Army in this area so far is Kanopolis Dam in a rough section of Kansas, which at least has done its bit in storing water.

This control and use of water resources is not just a matter of flood prevention, of course. It involves, among other things: irrigation in the extensive arid and semi-arid regions of the Missouri basin; public generation and distribution of electric power on a large scale; soil conservation and related agricultural work; industrial development of this underpopulated and relatively backward region; development of the huge and valuable mineral resources, including vast deposits of lignite; navigation; public health protection; recreation; and fostering of fish and wildlife. The Missouri basin is, and will continue to be, the breadbasket and butcher shop of the Nation, as it has great expanses most suitable for wheat growing or the grazing of the traditional white-faced beef cattle. Nevertheless it has many other important potentialities of national significance.

Construction of river and related works under the existing program already has cost something like one and a half billion dollars (mostly Federal money). New projects, plus inflation, continually swell the estimates but currently it is a safe guess that the plan envisions expenditure of about 14 billion dollars of Federal, state, local and private funds. Inevitably such a gigantic undertaking is shot with controversies; this wouldn't be America otherwise. Primarily, there are serious public conflicts over type and form of planning and management. Then there are notorious rivalries among public agencies engaged in the work, particularly among some of the chief Federal departments. Many other sharp differences exist; for example, the fundamental and bitter fight between public and private electric power. This is neither the time nor the place to review or debate all these controversies. What is pertinent here is to emphasize that what is going on in the Missouri basin is a demonstration of planning and action on the grand scale. The basin is a proving ground, and what comes out of this 529,000-square-mile laboratory may be expected to set a standard for the Nation and perhaps the world, for it has become abundantly apparent that regionalism based on the major river valley is an accepted fact.

A decade ago there was no collected plan for the Missouri basin. The Army Engineers were working on navigation in the lower end, with incidental flood control and power generation, while the Reclama-



tion Bureau was working on irrigation in the upper portion. Then came the movement for a Missouri Valley Authority, patterned after the successful Tennessee Valley Authority. Lewis A. Pick, now a Lieutenant General and Chief of Engineers, had an Army plan; W. G. Sloan, now retired, had a Reclamation plan. These were put together as Pick-Sloan to combat an MVA, in what has come to be known as a "shotgun wedding." Quietly, Pick-Sloan was written into law in obscure phrases of the 1944 Flood Control Act.

It quickly became apparent that something more was involved. In 1945 the Missouri Basin Interagency Committee, first body of its kind, was created by Washington officials. It represented the Army Engineers, Reclamation, the Soil Conservation Service and the Federal Power Commission; and the Governors of the 10 States partly or wholly within the basin were given representation. To everybody's surprise, the Governors' delegation speedily made itself a powerful force in this unofficial, voluntary, extra-legal coordinating body. Reclamations representation was shifted to a basin official for all bureaus of the Department of the Interior, and Soil Conservation's representation similarly was changed to a basin official for all bureaus of the Agriculture Department. Then the Department of Commerce and the Federal Security Agency were added (the latter mainly for the Public Health Service). Lately the Governors' membership was changed to include all 10 governors, who frequently attend in person or otherwise send technical aids. Without doubt, Interagency has accomplished a great deal in the way of coordination and smoothing the way, but the fact remains that it lacks power and actually has taken very few positive actions. It has been a good sounding board and a device for marshalling interest and support. Now, even some of Interagency's own members recognize that it is not enough.

Currently, the Missouri River States Committee, an informal organization of the Governors, is sponsoring a protracted study by the Council of State Governments for drafting an interstate compact to provide the basin's administrative agency, including Federal participation. This has a long row to hoe, with some stumbling hillocks in the way, but it could be cultivated into a useful instrument. Its principal proponent has been Val Peterson, retiring governor of Nebraska, chairman of the states committee. Recently Gov. William S. Beardsley of Iowa came out strongly for the general principle involved.

The movement for an MVA remains alive, although not lively. The Congressional bills for it have been criticized as socialistic, but if some of the provisions were sharpened and doubts eliminated it would be no more socialistic than the Post Office.

Just before he flew to Omaha to talk about last month's flood, President Truman proposed to notify Congress he was carrying out one limited recommendation of the Hoover Commission for governmental

reorganization. This plan, which would have become effective unless vetoed by Congress, would have transferred the civil functions of the Army Engineers—including dam building and other river work—to the Interior Department. There this activity would have been combined with the functions of the Reclamation Bureau in a single agency. However, the powerful lobby for the Army Engineers raised objections. Whatever the cause, within 10 days the President withdrew his proposal.

The Federal Bureau of the Budget has been working quietly on a bill to establish a system of river basin commissions for the major valleys of the Nation, along the lines suggested more than two years ago by the President's Water Resources Policy Commission, headed by M. L. Cooke. At the moment it does not seem likely this will get very far.

After last year's flood in Kansas and Missouri, Senator Thomas C. Hennings, Jr. (Dem.), Missouri, introduced a Congressional resolution for a Missouri Basin Survey Commission to study plans and needs for this valley and evolve a better form of administration. This move was held up, pending discussion, and, as an alternative means, President Truman created the survey commission by executive order early this year. The chairman is James E. Lawrence, editor of the Lincoln (Nebr.) *Star* an old political and personal friend of the late Senator George W. Norris, father of TVA. Senator Hennings is vice chairman. Other members are Senator James E. Murray (Dem.), Montana, sponsor of the perennial MVA bills; Senator Milton R. Young (Rep.), North Dakota; three members of the national House of Representatives, and four laymen. The commission is instructed to complete its report by the end of this year. Its difficult task, to be performed within a relatively short time in a hectic election year, has gained particular significance because the powerful House Appropriations Committee has announced plainly that it would provide funds for no new undertakings in the Missouri valley before the commission reports.

The commission organized at Kansas City early in April and held its first public hearing at Sioux City, Iowa, May 8. It moved into Montana for more hearings last week and the Dakotas this week. It immediately disclaimed bias or prejudice and gave evidence of its open-mindedness. However, it was apparent that both the commission and some of the witnesses, representing a wide variety of shades of opinion at Sioux City, were aware of the need for some form of unified, comprehensive planning and administration.

Gladwin E. Young, Missouri basin field representative for the Agriculture Department and a member of Interagency, told the survey commission that the existing Interagency program "is not a comprehensive river basin program." He added: "A comprehensive and coordinated basin program requires a great deal more than can be done by inter-agency effort on the ground. It involves legislative coordination, budget coordination, and appropriation coordination before field work



in planning, development and operations can be very effective.”

After seven years of intensive observation in the Missouri basin, it is my personal conclusion—of which I feel surer and surer as the situation develops—that the Missouri basin will obtain a unified, comprehensive administration. It seems quite clear that this will include strong, official representation for the States as well as the Federal Government. If it is going to work effectively, it will have to be stronger than some of the *status quo* boys would like. It need not necessarily be in the likeness of TVA to be worthwhile and useful. It will be I conclude, a fair, democratic compromise.

## The Valley with a Vision

CLAYTON M. HOFF, Brandywine Valley Association, Wilmington, Del.

**I**N MANY parts of America there is renewed interest in the sound development of all our natural resources. An increasing population and expanding industries make it more important than ever that we have adequate supplies of soil, forest, water and wildlife. The need is generally recognized. But the best method of doing the job still remains to be found. Development of resources on a river valley or watershed basis is a natural way to go at it. But many such projects have failed to integrate the entire program. Moreover, in too many places, there has been a lack of vision and initiative among the people who live in those valleys.

A notable exception to this is the Brandywine Valley which flows from Chester County, Pennsylvania down into Wilmington, Delaware. Nearly 6 years ago the people living there decided to do something about their own valley—rather than asking the government to do it for them. They formed an organization called the Brandywine Valley Association. Its fundamental purpose is to restore, conserve and improve all the natural resources in the Brandywine Valley.

Two guiding principles followed by this association might serve to guide other river valley developments all over America.

The first is that you and I, we the people, will do as much of the job as we can. That means we will pay our own bills. At the present time more than 1,000 persons are members of the Brandywine Valley Association. Anybody who wants to make the valley a better place in which to live can join. In other words, the people who live, work and play here decide how their valley is to be run.

The second principle is that we will develop every resource at the same time—not just one or two. Instead of just building dams or ir-

rigating land or practicing reforestation, we will develop simultaneously the soil, forests, waters, wildlife and recreational facilities of the entire watershed. Each will receive proper emphasis and all will be put together as nature intended them to be. The result will be the greatest good to the greatest number—now and in the future.

Believing that people will act when they know what needs to be done, the Association has embarked on a long range educational program to get every man, woman and child to take an interest in conserving the resources of the Brandywine Valley. Our best method has been the use of Kodachrome slides. Through them, nearly 300,000 persons have seen the Brandywine in the last 6 years.

We are glad to have this opportunity to take you on a "trip" along the Brandywine to show you our problems, to show you also what has been done about them, and to give you an idea of the job that lies ahead.

We think of the Brandywine as a watershed problem. It covers 330 square miles and 200,000 people live there. We believe that if we go back on the land and take care of each little stream that comes into the Brandywine, the main stream will take care of itself. Let's put it together now like a jigsaw puzzle and see what makes it work.

Near Honey Brook and back to the Welsh Mountains is a spring with clear and sparkling water. It goes down through hillsides and forms a little brook. Then as more streams come in like Valley Creek near Downingtown it gets a little wider and a little deeper. Just outside of West Chester it goes past Deborah's Rock where legend has it that an Indian girl named Deborah leaped to kill herself in order to get away from a white man. There must have been "wolves" even in those days. The east and west branches unite into the main stream which goes down under some of the many bridges in Wilmington. Down there the Brandywine joins the Christina and goes into the Delaware and out to the sea.

Most people would tell you it is a beautiful stream. Sometimes they are right. There are still left some of the old covered bridges—picturesque but some of them not in too good a state of repair. Of course, there are old meeting houses like the one at Birmingham used as a hospital during the Revolutionary War and still used as a place of worship every Sunday or every First Day by the Religious Society of Friends or Quakers as you may know them. There are good schools. The one at Downingtown we think is an example of it.

And we have left some of the old powder mills built by du Pont in 1802 and used through the first World War. From this humble beginning grew the vast du Pont Experimental Station, where they make "Better things for better living through chemistry". And with each growing industry we have more workers and more demands for the greatest of all resources—water.



There are also big factories like Lukens Steel, the world's largest plate mill at Coatesville. If the Brandywine didn't go past there, there wouldn't be any Lukens there because that water is its lifeline.

More recently we have acquired what they call the eastern annex of the King Ranch of Texas. Rather I guess they have acquired us. A few years ago they bought up 4,000 acres of land, and now they own nearly 12,000 acres of land, all of it in grass. They ship their cattle here in order to have them near the eastern markets. As far as the valley and our water supply are concerned, turning the land into grass is one of the best things that could happen to it.

Of course, we have some good farmers. Last year one of our farmers grew 175 bushels of corn to the acre. And the average American farmer gets about 40. We have some of the finest land in the world, but just around the corner from the world famous Longwood Gardens, a little south of West Chester, the county seat, we find the spectacular type of erosion. Even more serious is the sheet erosion. One rain a year ago last fall took away the soil because a fellow plowed a whole hillside. As that soil goes down the Brandywine it does not look so beautiful. The muddy water pouring out of the cornfield, to most people is just mud; but actually it is dollars and cents and meat and milk. It goes across the pasture, taking away the farmer's lime and fertilizer, and when you have a hundred of those little streams going into the Brandywine, the water goes over the banks at Lenape Park as it did 3 years ago. There were two feet of muddy water there that day. The next day the water receded and the men came out and scrubbed up. We don't know what it cost; we do know that you and I have to pay for it.

Some of the soil went on down the Brandywine, past one of the old mills and on out to the sea. After the Brandywine joins the Christina it forms the Wilmington Marine Terminal where the big ships come in, ships that keep our industries going. Down there the water slows down and the mud settles out and fills up a channel more than one mile long and 400 feet wide. The newsmen said, "Get the mud out so the ships can get in". That was all right, but it never occurred to anybody who wrote those articles that while we ought to take the mud out we ought to keep it from filling up again.

So they called the engineers and they brought in a dredge. When you pay your income tax, you pay your share of the \$300,000 a year it costs to scoop that mud out of that channel. You pay for it wherever you may live here in America.

The soil came from the hillsides. Let's put it back. It is dumped into a swamp, the Cherry Island Marsh. How much do they take out? They tell us more than a million cubic yards or a million tons, enough to cover a thousand acres seven inches deep. Even at one dollar a ton that is a terrific loss just in soil alone.

We didn't know how much soil went down the Brandywine but we

are beginning to find out. Opposite the du Pont Experiment Station, there is a flow gaging station put up by the Geological Survey and financed partly by the Joseph Bancroft Co. Inside there is a recorder which measures automatically how much water goes down the stream; and then, just above on Henry Clay Bridge there is a silt sampling station.

They tell us that on November 25, 1950 in one day, in a heavy rain we lost 16,000 tons of soil down that little stream—not more than 150 feet wide. And somebody said there isn't any erosion in the Brandywine Valley. We hope to prove that this loss can be cut down and these records prove that we are losing less silt than we did 3 years ago. We don't say this is conclusive, but it does show a trend in the right direction. Of course, a lot of that soil, before it goes out to the sea, goes into the intake race to the Wilmington water works. Anybody here who has ever drunk Wilmington water knows that mud does not improve the taste nor does it cut down the water bill.

And a lot of that soil that comes from the hillsides goes out on the highways. Much of your road money is spent to shove these farms out of the way. They will never grow any corn out there. Whenever the Brandywine goes on a rampage, it takes out highways to the tune of \$30,000 worth a year—more road tax money. And the damage to industry is about \$125,000 a year. A lot of good soil that came from the hills fills up the old mill ponds. There are more than 100 of them on the Brandywine.

They tell us that fifty years ago it was a good place for fishing or skating or swimming or waterpower. Now it is good for nothing. After all, what has happened here is the same thing that is going to happen to Boulder Dam and to all the other big ones they are building now that you and I and our children and their children are going to pay for. They are going to fill up too unless we stop this thing called soil erosion.

Now let us see how the farmer gets a big yield. You, of course, know it as contour farming. The rows run on the level and every time you cultivate you build a little checkdam to hold the water right where it falls. A billion little dams back on the land are a lot cheaper than one big one down on the river. Of course, you don't plow all the hillside at one time. You plow it in strips. You can see the same thing on 500 other farms in the valley.

How does the farmer get help for this kind of farming? We have soil conservation districts in both counties, and to any farmer who has a farm in the valley, we will be glad to give an application to get a conservation plan drawn up. The first step is to take borings to determine soil types. Men from the Soil Conservation Service go over the farm and draw up a capability map; and then with the help of the farmer they draw up a revised land use map showing him how to farm it in the best manner according to his needs. It is a practical way to go at it and



nobody has any excuse for going at it in any other way.

On the steep hillside they start with contour farming. Then the farmer may plow one strip, the other one he may leave in barley, wheat or hay. The plowed ground this spring might go into corn. If the strip of corn started to wash away the barley, wheat or hay would stop it. There is nothing new about that, as you know. Washington and Jefferson did it. The new thing is that it has only been in the last fifteen years that we have paid much attention to it. It is easier to operate machinery on the level. And the yields do increase, that's the main reason why farmers follow conservation farming. We are proud to say that more farmers are doing it—but not enough of them.

The Future Farmer boys at the Kennett Square High School started a school forest about 8 years ago. They planted trees the hard way—with pick and shovel. Now, we do it the easy way—by tree planters. We can sit down and plant 1,000 trees an hour. In 8 or 10 years the trees are big enough for Christmas trees.

At Parkesburg, somebody near the town gave the school some land. They said, "We will start a school forest". You would be surprised to know the number of parents who turned out that day. They wanted to see what this newfangled educational program was. They went home pretty much impressed. The trees are growing quite well. In a few more years the classes in science and biology will go out there to study nature and wildlife. They have an outdoor laboratory quite near the school.

But corn patches must be planted each year. Some farmers, therefore, are planting permanent shrubs like *Lespedeza Bicolor* along the edge of their woods. They can't grow any other crop there anyway. This shrub has a seed which stays on it most of the winter. It's the most excellent quail food we have found yet.

Another way of increasing wildlife is to plant a living fence of multi-flora rose—the old fashioned white rose. Planted a foot apart in a single row, in about five years it makes a fence 6 or 8 feet high and about that wide. It needs no pruning or repairing. It will stop almost any kind of livestock, and above all, it's an excellent hiding place for game. We are glad to tell you that one of our Sportsmen's clubs has invested \$300 to buy these plants to give to farmers.

One of the best ways to kill game is to start a grass fire. The fire departments would like to know why people do this. They spend \$30,000 a year fighting such fires. One man said, "Why it makes the grass greener and the ground richer." A soils expert said, "Now wait a minute. How could it do that? With every acre burned over, 50 pounds of nitrogen fertilizer go up in smoke. You don't make the ground richer that way." Maybe you can help us cut down this great waste by campaigning against grass fires.

We think the natural beauty is a part of the development of any valley. Let's look at the flowers and enjoy them and leave them for

others who come along. Let the people who like to pick flowers grow their own and put them in flower shows and see if they can get a ribbon for them.

We think, too, the natural beauty should be preserved in the form of other wildlife. If you are lucky you might find a great blue heron on the Brandywine. There are getting to be more of them. We think that recreation is very definitely a part of conservation. Plenty of people in the valley like to ride to the hounds, and the rolling countryside is ideally suited for it. The rail fences also help. The Brandywine is a good place to get out the canoe and go for several miles. And the Brandywine is a good place to fish. A lot of farmers are raising their own fish and they are building farm ponds.

We recommend that the farmers have a Soil Conservation Engineer take borings and design the fish pond before deciding to build one. The farmer puts a good deal of money in one of these ponds. He had better make sure he is doing it right.

The Brandywine is also a good place to swim—if you don't care where you swim. Rubbish, flies and mosquitoes and rats and mice are plentiful. That is the drinking water for Wilmington. It is an excellent way to spread disease. We don't know the answer to rural rubbish disposal. We know what should be done. The problem is to get people to do it.

Wilmington also was drinking raw, untreated sewage from the bathrooms in Coatesville but the Coatesville authorities cleaned it up and put it into a sewage disposal plant. A fine example of cooperation and we are glad to tell you that Wilmington is at work now on a sewage disposal system to take care of this problem. In fact, every town in the valley is spending money to add to the sewer systems.

What about the industries? Some industries have treatment plants. When the water goes back into the Brandywine it is better by test than when they took it out. One company has a lot of money invested in treatment plants, but they tell us it is a paying proposition in the material they save and use over again. When you add it all up, industries have invested nearly a million dollars to clean up the stream.

Anybody from Pennsylvania knows that there is a clean streams law which really has teeth in it and the towns and industries have to clean up. Most of them do it willingly. I honestly think that in another 5 years we won't have any such thing as sewage or industrial pollution in the Brandywine.

In Delaware it is a different story. Just two years ago there was enacted a clean streams law in that State. It has teeth in it. And we hope soon that the lower Brandywine will be as clean as the upper.

Of course, the kind of pollution that really costs us more money is agricultural pollution or mud. There is no law that says the farmer must keep his mud out of the streams and I hope there never will be



one. But if there isn't going to be one, we will have to do something about it voluntarily.

In 1937 Mr. Carlin, a business man, bought a farm and moved out from Coatesville. He said, "The boys want to live in the country, and this is all we can afford. So here we are." Well, he had good ideas. He said, "The boys can study agriculture in high school. Tenants can operate it and eventually the boys can take over." It sounded good. In 1939 one tenant quit. In 1940 the second one gave up. You could not blame them. There wasn't a living on that kind of land.

Mr. Carlin was going to sell out, take his loss and go back to town. By that time his son Walt was sixteen. Bill was fourteen. They had had some training in agriculture, some old machines they had fixed up in the school shop, a lot of ambition. But no money. They said to dad, "Let us take it over." He said, "It has to be a business deal. You will have to pay rent by fixing up the land and buildings and borrow money to buy machines." He said, "If you think you can make it pay, go ahead." They took over.

That was in 1940. That land would not grow 25 bushels of corn per acre. In 1946, on the same kind of land, those boys grew 101 bushels per acre. They practiced contour farming to save the little good soil they had. They also used good rotations, plenty of lime, manure and legumes.

The boys don't grow corn any more. They are turning over completely to grassland farming. Some of the land was so steep they planted trees. Now they are twenty feet high. They planted locust trees. In a few more years they will harvest a thousand fence posts. At 80 cents apiece, that isn't bad for land that was not worth a nickel when these lads started with it. They were in school most of the time they were developing their program. They can grow 15,000 broilers per year now. The manure from there goes back to the pasture. One acre feeds two steers. A few years ago they had 40 head. This summer they had 90 head. They are out grazing on Ladino clover and Orchard grass, one of the best pastures.

You may be wondering if all this new fangled farming pays. Let's look at the record. In 1940 this farm could not pay the taxes. By 1946 they made enough on it to pay dad. 3 years ago they took in \$51,000. That is gross income. I know it is misleading, but their net income is also quite impressive. Not bad for a couple of kids from town who wanted to learn how to farm and who started with a wornout place.

We have been working very closely with the G. I. farmers. Their leaders are interested in conservation too. The farm foresters are showing them some of the fundamentals of good forestry. In fact, one application out of every four for conservation plans has come from G. I. farmers. Twelve tree farms have been dedicated in the valley. These men have promised to harvest their trees wisely and keep the others growing.

We have a conservation contest for Future Farmer boys. They get trips down to Beltsville, Maryland, to the Department of Agriculture. Down in New Castle, Delaware, we have interested the bankers in putting up \$900 a year for prizes. In Chester County the bankers give \$500 a year. They will tell you this investment is drawing big dividends.

The Boy Scouts are earning merit badges by reforesting a steep hillside. The Girl Scouts come in for their share. They are planting wild-life shrubs to improve the number of song birds around their Scout area down near Wilmington.

Then, too, we have tried to get some interest among the civic clubs. The Lions Club at Downingtown on Arbor Day three years ago planted one tree on the school lawn and they gave the Future Farmer boys some more to plant.

At Kennett Square, the civic organizations went to work on an old swamp. It was an eyesore, a mosquito breeding ground. Now it is a beautiful farm pond—part of the Herb Pennock Memorial Park. Located beside the public school, it makes an excellent outdoor laboratory. I wish you could see the youngsters fishing there—having a wonderful time. You see, a farm pond is just as good for a town as it is for a farm.

We think that one of the best things which happened in the valley was the establishment of two conservation education workshops for teachers, one at the University of Delaware and one at West Chester State Teachers College. At Delaware three years ago they had only three teachers. Last year they had 38 and they turned 6 of them away. At West Chester State Teachers College 25 last year and 25 this year. They didn't just talk about natural resources, they really saw them; and traveled 800 miles to do it. Civic clubs paid the travel expenses.

Well, does it pay? Of course, it does. They go back to their classrooms and they take the youngsters out. After all, the great job to be done is among the young people coming along. Conservation workshops for teachers are one of the best ways to get it across. Conservation is a state of mind first and a practice second. You have to believe in it before you will do it.

We can sum up our whole program with three goals. The first is a sewage disposal plant for every town. And we will soon have that. The second is a waste treatment plant for every industry. And the third, the long hard job, is a complete conservation plan on every farm in the Brandywine Valley. That isn't the Brandywine yet, but someday it will be.

When that day comes, as we are sure it must, then we will have the surest water supply any valley can possibly get. And then our valley will be a good place to work, and a good place to live. Good not only for you and me, but for the youngsters who are coming along. After all, the soil, the trees, the water and the wildlife really belong to them. The



natural resources are something that God gave you and me to keep in trust, and to pass on to the next generation in at least as good condition as we found them.

So, at the end of every day let's give thanks for being Americans. At the same time, let's give some serious thought to the job ahead in preserving our American way of life by developing our natural resources wisely. Frankly, we don't think there's anything wrong that you and I, we the people, can't do ourselves—if we make up our minds to do it. The time to begin is right now. And we do need your help.

## Mississippi River Parkway

A. P. GREENSFELDER, Hon. Mem. A.S.C.E., St. Louis, Missouri,  
Pilot, Mississippi River Highway Planning Commission

**B**ILLS before Congress entitled "providing for construction of a highway and appurtenances thereto traversing the Mississippi Valley" are merely to *authorize a continuous highway generally following the Mississippi River from its source to the sea.*

Our Planning Commission includes ten members designated by each of the ten Governors of the States bordering the Mississippi River. The Executive Committee of the Planning Commission is composed of the Chairman of these ten delegations with one or two additional officials of the Commission. You will hear from one of them this morning.

As Chairman of the Commission, or "Pilot" as I have been named with due deference to Mark Twain, it has been my privilege and obligation to preside at meetings of our Commission held from time to time in the various States along the river, as well as to speak or co-operate for them with the Bureau of Public Roads and National Park Service.

The Bills are merely to *authorize a continuous highway* along this great historic midcontinent river. This river has served as a central transportation artery of midcontinent America ever since it was discovered by DeSoto 400 years ago. The explorers of the Mississippi Valley followed the river which eventually led up to the *Louisiana Purchase* one hundred and fifty years ago. Through all the centuries, however, *it is still impossible to ride along the river or anywhere near it for many, many miles. This applies to both sides of the river.* The great need today, with the millions of automobiles and greater leisure of millions of people, creates a pressing demand for a *riverside highway, attractive, alluring and safe* for the *ever growing travel-trade of America.*

Since America generally developed through Western movements in the last century and a half, most of the major thoroughfares run East and West. Today with the many industrial centers and populated

areas along the river there is a crying demand and ever increasing need for a North and South midcontinent throughway connecting Canada with the Gulf of Mexico.

Such a continuous trunk thoroughfare could readily serve in any national emergency as a great defenseway and could readily connect up through Canada with the Alcan Highway.

Our problem, today, however, is *merely to get Congress to authorize this throughway*, which because of its inherent historic, scenic and riverside characteristics we trust some day may be appropriately designated.

Such a travelway, by whatever name, differs from national parkways in that *it will not be on National Domain but will be State Highways. This great difference must never be overlooked.*

#### PLANNING THE RIVER ROAD

Congress with vision and wisdom in 1936 looked forward to a finer America by passing Law 770½ on June 23, authorizing the Secretary of Interior to cooperate with the various States in the preparation of a nationwide plan for America. This initial mandate started various state planning agencies in a comprehensive study of the needs for travelways in their respective States. Speaking for Missouri, that State Planning Board produced such a plan in 1937. This plan included a proposed way along the Mississippi River through the State. It seemed only logical to contact our neighboring States to see if they also contemplated a similar river highway, and, if so, that it would connect with Missouri. This was done. The next step was to have the planners of all the States along the river organize a planning Commission, which was done in Minneapolis in June 1938. It is that Commission which for fourteen years has evolved preliminary plans for such a river road. Interrupted by World War II our planning was considerably slowed up until the 81st Congress passed Public Law 262, approved August 24, 1949. This act authorized the Bureau of Public Roads and National Park Service to cooperate with the States in a joint survey of various routes along this great Father of Waters. The result of their survey, their reports and recommended plan was presented to Congress by the Secretaries of Commerce and Interior on November 28, 1951. *We concur in that plan.*

#### ECONOMICAL PLANNING

During the two years this survey was in progress both Federal and State officials cooperated to develop a very economical major thoroughfare. It was generally concurred in that ⅔ of a 2000 mile highway should be *along present state highways* which would be improved and reconstructed according to modern highway standards for interstate travel. Secondly, instead of purchasing lands beyond an adequate right of way, it was decided that it would serve equally well to obtain "Roadside reservations" from the farmers along the route of this great rural highway.



These roadside reservations would thus not deprive the owners from continuing their agricultural, horticultural, forest or grazing operations and would more generally present the interesting countryside to the highway travelers. This reservation program alone should save millions of dollars.

It is not intended that this riverside highway follow each bend of the river, but merely provide river access and river vistas at appropriate spots in order to reduce the ultimate length by 500 miles. This river side highway can prove exceedingly useful to public agencies concerned with river improvement by *providing a greater public access to public waters*. We have been commended on numerous occasions by various government engineers and coast guard officials who recognize the usefulness of the thoroughfare we have all endeavored to plan. We propose to use present bridges to cross the river from State to State.

#### LONG DESERVED

*The thirty-five million people in the ten river states have long desired and deserved* such a rural trunk "market to farm" thoroughfare for tourists. Such tourways are no longer untried, and this Mississippi River tourway will add to the lustre of our Nation's travelway system. Travel-trade is the greatest expanding industry of the Nation, and some of the millions of travelers and billions of dollars very properly want to journey North and South along interesting safe travelways. The changes in scenery from the precipitous cliffs, pillared palisades, rolling timbered hills and corn fields of the North through the interesting areas and cotton fields of the South will be most pronounced. Recent improvements of the upper Mississippi with more than thirty locks and dams, together with the recreational and transportation lakes created thereby, provide new fascinating water facilities. These locks compare with the Panama Canal locks and are much more accessible.

The great national parks and most of the distinctive national monuments of America are in the Eastern and Western mountainous regions, yet they were visited by over 30 million people last year. A continuous river highway with moderate acres of recreational, scenic and historic areas will create a "Recreation-Conservation Corridor of National Character" from Itasca State Park of Minnesota to the mouth of this greatest of rivers.

#### RELATIVELY MODERATE COST

The early Roman Appian Way which I visited last year is still one of the most attractive tourist routes of the world. Our modern riverway for millions of motor cars will not cost relatively more per vehicle-mile than did that ancient way for its hundred chariots. Our thoroughfare is therefor but an *urgent revitalizing* in keeping with 20th century trends. It is mere repioneering in scale with the current times. It will provide a *midcontinent artery* of transportation circulation.

## PURSUIT OF HAPPINESS

Our Declaration of Independence 175 years ago pointed our way to the pursuit of happiness. Thomas Jefferson's phrase implies not merely personal but happy communities progressing and prospering. Our particular riverway can develop into a "Happiness Highway" whereon you and I and those who follow us will seek and find happy days in pleasurable pursuits. Our way will be a way between parks and playlands as well as between urban centers. *It will be a rural way.* We, the people of mid-America must produce such a travelway commensurate with our potentialities. *We believe in vision and vitality.* It has created the America such as we have today, and it will provide an America of which the future will be proud. America is the most automotive minded nation in the world. *They move a million miles a minute. Americans are outdoor people* that no longer sit on black horsehair sofas, but spend their weekends and their yearly vacations out among the trees and green grass where they can recuperate and rest from their weary work-a-days. As one group of workmen have called it, it is a "poor man's way". It will enable working people over the weekends and the vacation periods to travel along this great river, fish, boat and swim in its waters, and enjoy the contrast between land and water, hills and dales which will be of real recreational value to them.

## A NATIONAL ARBORWAY

Because of the various climatic zones from Canada to the Gulf of Mexico, the travelers along this way will view the pines of the North to the palms of the South. In between, indigenous plantings should be encouraged. This view has been thoroughly studied and presented by no less an authority than H. P. Kelsey, the great horticulturist and landscape planner.

People have green in the eyes. This is amply demonstrated by thousands of shades of green which the Great Creator has provided for our view. What could be more interesting as one travels up or down river than to observe the great varieties of trees, shrubs and flowers which nature can thus provide for the enjoyment of mankind.

We have constructed many roads for many types of vehicles over the decades of American progress. *We have constructed too few highways for the people who ride these vehicles.* Urbanites and suburbanites, farmers and their folks are all human beings who desire better things in better days. We hope that this great highway will eventually develop into a thoroughfare famous because the men of Congress with great vision and thorough understanding of people will have so determined it.

## FATHER OF WATERS

This great river is a living feature of the earth. It is the most eloquent sample of space and unity in America. It runs from the northern region to a tropical sea. It cleanses half the area of our country.



It is a great historic waterway. It has been said that little men cannot usually understand large motives, and yet the Mississippi River has been a great magnet to our early voyagers as well as to our present day autoists. Ever since America was discovered, road building then as now is a communal task. Building a great riverside road is a project worthy of the best road builders of our Nation, and our ablest engineers and landscapers will be required to do a job worthy of our great river.

We no longer need a tow path for keel boatmen, but we must have a great thoroughfare of which we will all be justly proud. As S. W. Abbott, Supervising Landscape Architect, so appropriately worded it, "In the valley of the Giant there must needs be a thoroughfare so appropriate, so useful, so practical and so safe that it can serve America as the river has always served it." The river has color and character. The highway along it should be equally inducive. The Mississippi Valley is a lived-in, worked-in countryside of many groups from the Scandinavians of the North, the French and Spanish of the South and the great melting pot of many peoples in between. Mark Twain called the river "*in all ways remarkable.*" *We who follow him and who guide the Nation now can do no less than build a remarkable highway along its banks.*

#### HISTORY REPEATS ITSELF

Thirty-three years ago I was summoned to Chicago by the then President of the United States to help develop *useful projects* for our men returning from World War I. Out of that conference came the slogan "Take America Out of the Mud". It was deemed the most civilizing useful program of that era.

History has a way of repeating itself. Let us all *plan now for a similar era soon to come again.* Our proposed *riveroad* will fit in with such plans.

#### AUTHORIZATION ONLY

We planners are thinking in terms of long range plans to provide a great economical thoroughfare of great utility and value. Although eight river-state Legislatures have already passed enabling acts authorizing their highway departments to cooperate with Federal agencies on such a way, it will probably be necessary to go back to these Legislatures permitting them to avail themselves of the requirements of this act when same are known to them upon passage of this bill by the Congress. Various public agencies concerned with public projects along and in the vicinity of the Mississippi River desire to coordinate with such a riverside route.

## Recreational Use of Public Water Supply Reservoirs

MALCOLM H. DILL, Director, Baltimore County Planning Commission,  
Towson, Maryland

**S**HOULD we be allowed to swim in our water supply reservoirs or should high barbed wire fences be erected around them, with signs reading "Keep out—this means you!"? As is usually the case in controversial matters, the reasonable answer appears to lie somewhere in between such extremes of policy.

In the brief time available I want to bring out some of the *pros* and *cons* about recreational use of water supply reservoirs, and then cite a few examples to illustrate the manner in which several urban areas have handled this problem. It should be noted that this discussion is limited to either natural or artificial lakes, the primary use of which is, or is proposed to be, storage for a public water supply. Thus I am ruling out lakes resulting from such enterprises as the Miami Valley Conservancy District in Western Ohio, in which flood control was the *sole* motivation, and the Muskingum Valley development in east Central Ohio, of which flood control was the *primary* function. In both these instances recreation has been made an accessory use. Such flood control reservoirs, however, involve quite different factors from those that pertain to water supply lakes, and so, to avoid complicating the discourse, they are excluded.

The question might be asked as to why any consideration should be given to the use of water supply lakes and their shorelands for recreation. Unquestionably, sizeable bodies of water possess a great inherent appeal for nearly everyone, whether in connection with actual use of the water for some specific type of recreation, or merely for the psychological satisfaction derived from looking at the water—just as most persons enjoy watching an open fire. There are relatively small sections of this country where natural lakes are not so uncommon as to make it worthwhile to give careful study to the recreational potentialities of an existing or proposed lake, the primary purpose of which is for water supply storage.

Is this really a matter of widespread interest? I don't know exactly how many water supply lakes actually exist but one source of information indicates that more than a majority of the larger cities depend on impounded bodies of water. In many localities, ground water tables are dropping alarmingly. At the same time appreciable progress is being made in eliminating sources of pollution in rivers and streams. Thus it is likely that increasing future use of impounded lakes may be made as sources of water supply for the smaller cities.

Only one major factor seems to militate significantly against encouragement of recreational use of water supply lakes—that of potential pollution. In the rather rare cases in which no filtration is provided,



where the entire watershed is publicly owned and completely protected from trespass, recreational use of course is unthinkable.

The same statement applies where the body of water is comparatively small, thus making it difficult to subordinate recreational use to the primary function of supplying potable water. In any case, sanitary engineers could and should analyze the relation between the filtration and chlorination facilities of the water plant, the period of retention of water in storage free from possible pollution, the general character of the watershed, the volume of population that could be expected to use the types of recreational opportunities proposed, and any other local factors.

At the 1948 Annual Meeting of the American Water Works Association, a panel discussion was held on the subject of *Public Use of Reservoir Lands and Waters*. Many of the detailed references here made are derived from the transcript of that session. From the opinions expressed therein there appears to be rather general agreement that, subject to suitable precautions and limitations, public recreational use of water supply reservoir lands and waters is acceptable and proper. Naturally there is some variation of opinion among water officials as to the character and extent of types of recreational use that should be permitted. It may be of interest to summarize the kinds of activities noted by several cities as occurring on their reservoir areas:

*San Diego, California*, reports fishing, boating, picnicking, camping and hunting.

*Roanoke, Virginia*, lists limited fishing, boating—including motor-boating, and picnicking.

*Akron, Ohio*, boating, fishing, trapping, and limited hunting.

*Decatur, Illinois*, boating—including motorboating and sailboating, fishing, picnicking, and *swimming*.

*Springfield, Illinois*, has gone farther than any place in the country in permitting multi-purpose use of its reservoir. The following quotation is taken from the statement made at the 1948 meeting referred to above, by the General Superintendent of the City Water, Light and Power Department of Springfield:

When the proposal for a bond issue to finance the construction of Lake Springfield was presented to the Springfield, Illinois, voters, they were promised that the recreational facilities of the lake would be developed.

In planning the lake it was decided to purchase several thousand acres of additional land. This was done for two reasons: first, to give the city control of the entire shoreline, from a depth of a few hundred feet to a distance of one-quarter to one-half mile, in order to cope with erosion and protect the supply from pollution; second, to allow the shoreline to be developed for home sites and public recreation.

All of the land bordering on the main body of the lake was subdivided into areas for homes and parks. Roads and driveways were constructed, and water mains, sewers and electric lines were installed. Five parks were developed by the construction of fireplaces, picnic tables, comfort stations, ball parks, horse-

shoe courts and other types of playground facilities. Two beaches were built, together with beach-houses. These beaches were covered with thousands of tons of sand and were equipped with diving towers, slides and safety equipment. They were operated at as near cost as possible to concentrate all swimming at these controlled points. Boat dock concessions and the privilege of conducting excursions were leased to a private company. A number of areas were let to private groups who operated facilities for sail and motorboats. All boats were licensed after inspection by the department and were operated under an ordinance providing safety regulations.

As the lake filled, it was stocked with several kinds of game fish. Since that time the department has constructed two rearing ponds to raise black bass and restock the lake.

All of the marginal land remains under the supervision of the water department.

During the construction of the lake a nursery department was set up for reforesting and planting ornamental shrubs on all of the marginal land. Over 5,000,000 trees have been used in the reforesting. Thousands of flowering shrubs for decorative purposes were planted under the supervision of the landscape architect. The farming areas which have not been developed for real estate or park purposes are operated under the nursery department.

One of the outstanding developments of the lake is the Abraham Lincoln Memorial Gardens, located on a marginal land area which was turned over to the Garden Clubs of Illinois. In a picturesque setting on the rugged shoreline fronting a wide expanse of water, the garden clubs have constructed a living monument to the memory of Abraham Lincoln by planting native trees, flowering shrubs and wild flowers over the entire area.

Another portion of the land has been set aside as a wildlife sanctuary. This consists of several hundred acres which were left in their natural state but have been reforested with native trees. All kinds of wildlife are exhibited here in their natural setting.

In Baltimore County we now have two large lakes that provide most of the water supply for it and for Baltimore City. A third lake on the Patapsco River, which forms the western boundary of the County, is now in process of preparation. Loch Raven, the lower of the two present reservoirs is nine miles long, and has an area of four square miles. It has extraordinary scenic quality. The entire shoreline of the lake is owned by the City of Baltimore, with a total of more than  $8\frac{1}{2}$  square miles of land. The distance owned back from the shoreline varies greatly, from a narrow strip to one and a half miles on a major peninsula. The nearest point on the lake is only four miles from the north line of the City.

Until only recently all recreational use of the lake was discouraged; yet highways cross the lake at four points, and drivers' appetites for closer contact with its potentialities were whetted by passing glimpses of its beauty. Less than four years ago fishing from boats was first permitted on Loch Raven. Fishing from the shore is still prohibited. Picnicking facilities are not provided, but the presence of trash cans in certain much-frequented localities is tacit admission that people want to and do use the most attractive and accessible wooded and open shores for picnics.



In recent years the idea of making the maximum of multi-purpose usages of publicly-owned lands and facilities consistent with their primary function has been increasingly widespread throughout the Nation. State and Federal Forests, as well as major flood control projects, recognize and encourage various other suitable uses besides reforestation and erosion control, including recreation. Within the span of only a few years, school buildings and grounds have blossomed out from being open or used for only a few hours a day—and closed completely during summer months—to become frankly recognized as the dynamic centers of community and neighborhood activities, in which the sometimes faint borderline between recreation and education practically disappears. Increasingly the public is really getting its money's worth out of investment in school plants.

In the light of Springfield's apparently successful experiment, I maintain that there could well be careful scrutiny of many *existing* publicly-owned water supply lakes, and that there should be open-minded analysis of most *new* projects to determine the maximum of public benefits that could be derived therefrom, without imperiling the water supply. Numerous suitable recreational uses suggest themselves without straining the imagination: miles of hiking and riding trails; nature trails; picnic areas; one or more large playfields for organized games; day camps; golf courses; archery and archery golf (where arrows replace golf balls); possibly swimming in a man-made pool—near or remote from, but not in, the lake; rowboating and canoeing; fishing. Finally, what could be more consistent with water conservation than a planned arboretum, where trees and shrubs of all kinds, but especially native ones, could be displayed under the most appropriate topographic and other environmental conditions?

It seems to me that in these days the use of public funds to purchase hundreds or thousands of acres of land to serve only the single purpose of water supply storage—if they could perfectly well also provide greatly needed recreational opportunities—is an inexcusable waste of a potentially valuable resource, and in that light, unwarranted extravagance.

I hope that no one will view these remarks as irresponsible propaganda against vital protection of water supplies, or as a biased harangue aimed at throwing wide open the gates of discretion, so as to invite Coney Islands on every water supply lake. What I suggest is that a major water supply reservoir project should be approached—not as the specialized concern solely of a water department—but like any other city or regional planning problem, requiring a correlated study by all concerned. It seems as logical to bring park and recreation officials into the picture at the very beginning, as to have highway officials engaged in relocating sections of roads proposed to be flooded out. In short, let us view such land use problems broadly and cooperatively, rather than as completely independent departmentalized projects.

## CONSERVATION IN PRACTICE

### The Public Pays

LOUIS C. CRAMTON, Member of Congress 1913-1931; Circuit Judge 1934-41;  
Member Michigan House of Representatives 1909-10, 1949-

**T**HE ZEST for remembrance, for renewal of auld acquaintance with some who were valued friends when I was on earth before, for renewal of contacts with some of the great Americans with whom I was at times in those days privileged to work, developed the thought I might briefly look in on this National Planning Conference. It proves to have been more than incautious in me to let Miss James know of that possibility for here I am with that imposing, if not overwhelming, subject, "The Public Pays."

The ides of March are not so far behind us that any one is unaware that the public pays. When World War I opened in Europe, the tremendous word, "billion," first was heard in Congress. And I remember how John Fitzgerald, who has so recently passed away, then the able chairman of the House Committee on Appropriations, refused to use that word, he persisted instead in saying "a thousand million," hoping that the Congressional comprehension might reach to a million, it certainly could not to a billion. And as I read the news of the day I am by no means sure the Congressional comprehension of vast sums has grown.

This Nation, with all its resources, developed or untouched, its productive forces, its fields of opportunity, is the trust of its people, by them to waste and destroy, or to guard, develop and preserve. And whether there be planning, and whether the planning and the performance under planning be wisely, foolishly or carelessly done, the public pays.

Gathered here are men and women officially representing the public in stations local, state or nation, and also those who freely give their services in voluntary association in civic effort everywhere for wise and timely planning.

All are so familiar with the payments the public makes for the machinery of government and the carrying forward of its policies that that broad field seems not to be within my topic here.

Rather it is the inevitable payments the public must make in the long unending future for planning failures, for insufficient planning, for no planning, which here concern you. And that cost may well be tremendous. While that cost may have to be paid in large part by a public as yet unborn, the responsibility for planning is upon the public of today. As the past has done so much for the present, so must today plan for tomorrow.

In my Congressional days I was greatly privileged in my contacts with great planners who were giving so generously of their great abilities



for the common good, giving leadership that made possible great accomplishments. It is natural my mind in these later days turns back.

This great organization, now conferring here, has, in the years I have known it, been richly blessed in such leadership. In her presence one may only mention the career of Harlean James, synonymous with the American Planning and Civic Association. And your President, whom I knew best as Colonel Grant, and your Chairman of the Board, so long the right hand and then the successor of Steve Mather, Horace Albright. In this company the mention of their names is sufficient for you who have known so well their great services.

And as I reminisce, I think long of an early President of this Association, Frederic Delano, whose service therein and as President of the National Capital Park and Planning Commission was preeminent. It was indeed a great privilege to work with that gracious, sincere man, so distinguished in appearance and in being, so kindly and so devoted to his ideals. And such a great team in those days—Frederic Delano and Colonel Grant—when they successfully planned and fought for accomplishment of those plans for the National Capital.

At that time President Hoover declared it to be

“Our national ambition to make a great and effective city for the seat of our government, with a dignity, character and symbolism truly representative of America.”

An editorial in the *New York Times*, I suspect by Nicholas Roosevelt, called that the “present golden age in the development of the Capital,” stressing the union of its “natural and artificial glories.”

As to those artificial glories, if not provided at one time, they can be achieved later. That which man has made he may replace and when he wills. But, once the natural is destroyed it cannot be replaced. And it is stark tragedy when man seeks to replace nature’s glories with his own works.

As Delano, and his able associates were planning, the woods which Washington loved were disappearing, those delightful ravines were being levelled, those scenic palisades of the upper Potomac were daily scenes of blasting that robbed them of primeval beauty, and intended harnessing of Great Falls of the Potomac for power production threatened to destroy the Capital’s outstanding natural gem. But they planned and the Congress accepted their forward-looking leadership and enacted laws that will forever preserve and protect those God-given natural beauties for the great Capital of a great Nation. Except for such leadership then, the public, in the long future, would forever have paid in loss of charm and beauty that never could be regained.

So the public will always profit from the wisdom of those early planners who created Central Park in the City of New York, an area deliberately provided for exclusive use as a pleasure ground for the inhabitants of a great city in the United States. The public paid \$15,000,000 to

acquire and to improve this first park, but it was a very worthwhile investment, though at the time some scoffed and roughly criticised the plans and the planners.

And the public owes much to the Supreme Court of the United States which at the critical time held open the door for great planning. It is 60 years ago that that Court in the *Shoemaker* case (147 U. S. 282) sustained the planners who saved for all posterity, including us, that other great scenic charm of the Capital, Rock Creek Park. In the opinion of Justice Shiras that Court affirmed the right of government to take private property, with or without the consent of the owner, for a public park and provide for its cost. The public paid and profited.

And in the *Gettysburg* case, in 1896 (160 U. S. 668), that Court, speaking through Justice Peckham, held the door wide open for the Nation when it affirmed the right of the Federal Government to condemn lands for park purposes, not in the District of Columbia, as a public use. The door thus held open, planners have served the public well. Our national park system has become the inspiration of planners in many nations. All future generations will derive enjoyment from our superlative wonders of nature, saved for them by wise planners, supported by the public. When such planning has not been early enough or fully effective losses have been suffered for which the public must forever pay, paying for dead horses. But when the public has paid for acquisition and protection of such natural resources, it has had its money's worth many times over.

To be effective planning must be upon correct basis principles, supported and applied by authority. For a century the wonders of nature in this land received scant governmental attention, personal gains being the chief thought bestowed.

One of the wonders of our national legislative history was the creation of the first national park, Yellowstone, by the act of March 1, 1872, four score years ago. It was only ten weeks previously, December 18, 1871, that the bill had been introduced simultaneously by Delegate Clagett of Montana and Senator Pomeroy of Kansas. It was just after the Civil War, a time when economy's need was urgent, and, though no appropriation was carried, other bills for reservation or transfer or nearly one hundred million acres of public lands failed. Without precedent, this vast wilderness of scenic and natural wonders, located hundreds of miles from rail transportation, so very recently reliably known even in part, was

"dedicated and set apart as a public park or pleasuring ground for the benefit and enjoyment of the people."

The planners who framed that historic law required

"the preservation from injury or spoliation of all timber, mineral deposits, natural curiosities or wonders within said park and their retention in their natural condition."



It was under Franklin K. Lane, Secretary of the Interior, that the vital necessity for well based planning for the spreading system of national parks received recognition in the Act of August 25, 1916, which created that planning and controlling organization, the National Park Service. Within a few months began the ever memorable career of Stephen Tyng Mather as its Director, a career to end only with the collapse of his health in 1929.

The most inspiring contact of my 18 years of Congressional service was that with Steve Mather. It began when he fought unsuccessfully before the House Committee on Public Lands, of which I was an obscure and little informed member, to add to Sequoia National Park some 8 hundred thousand acres of scenic region to the east. From then until his end I was happy in going along with him in all his programs, all his battles, to the limit of my personal and official capacity, glad to have a little part in supporting him in such epic battles in defense of the public interest as the ousting of Cameron from the Grand Canyon, the halting of San Francisco's encroachments in the Hetch Hetchy region of Yosemite, the saving of priceless scenic areas in California forests.

Steve Mather was himself a wonder of nature, a human phenomenon. In him the usual order was reversed. In my years on the House Committee on Appropriations I met many who were generous with public funds, preserving their own with care. Steve Mather was careful and economical in his expenditure of public funds, generous in his gifts to the public from his own.

He was America's great Park Planner. Wherever his plans were permitted to come to fruition, the public will forever draw great dividends of use and enjoyment. Wherever his plans were thwarted, opportunity was left open for destruction of that which can never be replaced. There the public has paid the penalties that so often come with wise plans denied and when the public makes such payments there is no refund or recompense.

It is a simple but eloquent tribute to this great Planner which now can be read on the modest bronze plaques to be found in any of his parks:

"He laid the foundations of the National Park Service, defining and establishing the policies under which its areas shall be developed and conserved unimpaired for future generations. There will never come an end to the good that he has done."

Not the least of his accomplishments, and a key to his great results as planner and administrator, was his success in building an organization that has ever been outstanding in ability and loyalty, loyalty to that organization and to the ideals of its chief. I dare not begin to call a roll of those great park superintendents who had their beginnings with him, it would be too long. But that trio that were closest to him in the center of administration—Albright, Cammerer, Demaray—you know their worth.

A singular mark of the Congressional respect for Steve Mather was the passage of the Norbeck bill in 1931, authorizing a Mather memorial. That bill, introduced by Senator Norbeck after 8 p.m. on March 3, in the closing hours of that Congress, was passed by the Congress and signed by the President before noon of the next day, never having been printed and never reported upon by any branch of the executive. Probably no other bill, except possibly some bill dealing with urgent war emergency, ever was so quickly enacted into law after first introduction.

There were two Park Superintendents I may mention because of the trenchant conflicts between them which grew so spontaneously from their enthusiasms in their respective jurisdictions—Col. John R. White of Sequoia and Col. Tom Boles of Carlsbad, formerly of Hawaii—Sequoia with its giant trees and Carlsbad with its underground marvels. I have never forgotten that classic exchange between them when White told of the longevity of those giants of his forests; how they were only in their beginnings when Christ walked the earth. And the rejoinder of Boles that when those trees were seedlings his prize calf, Giant Dome, sixty million years old, was within two inches of its present height. I, may not be exact in the quotation but you can appreciate the clash.

I think it was before that that the Colonel wrote Tom:

"If I go east again I shall hope to stop in to see what you get for \$2 (the Carlsbad guide fee)—not much I suppose. I suppose you are boosting it just as enthusiastically as you boosted your hell fires in Hawaii. They sent you from a flaming heaven to a cold, damp, hell and you better look out for your next move."

And also the fiery Colonel had written General Harbord:

"I hope you actually got into Carlsbad because I understand that many people after hearing the preparatory talk of Superintendent Tom Boles think they have had their \$2 worth and go home without seeing the cave."

Men pass and loyalties succeed loyalties and those who have served are succeeded by others serving, but the wonders of nature, the beauty and the inspiration are eternal where wise planning has become effective. Personally, I acknowledge that I cherish a wish, that the national memorial to Steve Mather, so promptly authorized by the Congress, might be established in my lifetime; not any artificiality of bronze or granite or marble, but a spot in Nature that he loved.

But again to the subject, The Public Pays. I am relieved to find that the distinguished gentlemen that are to follow me in this program will no doubt reach that subject quite necessarily in the development of their topics. To prevent floods the public must pay. But since we have not paid to prevent them the public pays high penalties. Some one coined the expressive phrase, to pay through the nose. And if this Nation is to enjoy through succeeding generations the appreciations that are a great part of civilization, the public must pay and the public, in its enjoyment of dividends on payments for past wise planning, should



like it. But if the public neglects, refuses that responsibility of careful planning, they will again pay more heavily.

A Nation without acceptance of wise planning for its resources is headed for such fate as you can see as you walk about the scattered brick remains of old Phillipi or upon the windblown sands of Araby where ancient civilizations, so-called, repose. Hence the vitality of Conservation.

## Stopping Floods at Their Source

LOUIS BROMFIELD, Farmer and Author, Malabar Farm, Lucas, Ohio

EDITOR'S NOTE. Mr. Bromfield spoke without manuscript or notes. This statement has been compiled from memory and checked with various articles published in *The Land*, a quarterly magazine issued by Friends of the Land and Mr. Bromfield's book "Out of the Earth," published by Harper and Brothers in 1950.

**T**HE expenditure of millions of dollars for expansive dams and dikes on the lower reaches of our great rivers has been an ineffective and mistaken method of preventing disastrous floods and continues to cost the people of the United States many more millions of dollars for repairs after every great flood, not to mention the appalling loss of life which could be prevented.

It is true that there were periodic floods in ancient times before we cut the extensive forests which held our soil on our vast watershed slopes, but these floods were less severe and the waters receded in less time than in the floods of our generation. In Ohio we had the great flood of 1913 which caused tragic loss of life and property but in one way was a blessing, for it started Bryce Browning to thinking. For nearly twenty years he advocated a new method of preventing damaging floods in the Muskingum River and, finally, in 1933 we saw the Muskingum Conservancy District organized and at work under the able direction of Bryce Browning.

The watershed area comprises approximately one-fifth of the State of Ohio, extending roughly from Akron on the North to Marietta on the Ohio River to the South, and from the Pennsylvania-Ohio line to Newark, Ohio, on the West. The flood control operation is composed of headwater reservoirs on the major tributaries of the Muskingum controlled by 14 dams, 10 of which have conservation pools. Within the flood storage area the District owns in fee about 65,000 acres of land, and in the 10 permanent lakes impounded behind the dams about 15,000 acres of water.\*

The Muskingum Conservancy District has proved its worth. In the 1947 rains, which rivaled the downpours of 1913, there was not one cent of damage and not one life was lost. The Federal Government

\* Quoted from an article on the "Muskingum Conservancy District" by Bryce Browning, in *PLANNING AND CIVIC COMMENT*, December, 1951.

has a stake in this demonstration. It provided an original fund of something over twenty million dollars for the construction of the upper dams and those on the Muskingum. The State of Ohio voted two million dollars for the acquisition of land.

But the Muskingum plan is distinguished from all others in that it pays regular taxes on its land just as any other land owner would pay, and it operates on a self-sustaining or better basis. Its farms are leased to neighboring farmers and its recreation facilities bring in revenues.

Imagine the state of this country if the Muskingum plan were to be applied to all upstream tributaries of the Mississippi River. There would be no more expensive downstream dikes to maintain and the effects of heavy rainfalls and melting snow would be negligible. What a blessing for the people living along the lower Mississippi! And what a saving to the people of the United States!

When we consider the results of the Muskingum Conservancy District and the Tennessee Valley dams south of the Ohio River, we can see that both have exercised a considerable effect on the flood waters of the Ohio which in the past has carried the silt laden waters of the Muskingum and Tennessee Rivers down into the Mississippi and so to the Gulf of Mexico.

But this valuable demonstration in Ohio does not derive merit alone from the engineering works which it has installed. The Conservancy District, through its lessees and on the lands which it operates practices soil conservation—the kind of soil conservaton taught by Hugh H. Bennett during the years he served as Chief of the Soil Conservation Service in the Department of Agriculture. Forested areas are being restored. Farms are cultivated under the advice of trained soil conservation officials.

And I can testify from my experience at Malabar that we are there holding the soil and its essential organic matter on our fields instead of contributing to the volume of silt which is filling up the downstream reservoirs and causing misery and damage along the Ohio and Mississippi Rivers whenever the waters of the upper tributaries go on the rampage.

When we began our work at Malabar more than a dozen years ago, we inherited all the mistakes of a hundred years of bad farming. We soon learned that the mistaken idea that clear plowing was a virtue had actually contributed to the hardening of the soil into a cement-like texture which would not absorb the plentiful and well distributed rains which we have in Ohio. Not only had most of the valuable organic matter washed away but we were left with fields incapable of making use of the moisture supplied by Nature, since at least eighty percent of the rain storms ran off the land within twenty-four hours. Bad farming had contributed to the drying up of the many native springs, had lowered the water level of the wells and had caused the water table



to drop to a dangerous degree. The water table today in Ohio is forty to one hundred feet under its former level.

First we began with contour plowing which allowed the rains to be conserved in level trenches around the hills instead of causing great downhill gullies. But this was not enough. We finally discovered that we must leave the corn stalks and debris on the land when we plowed for corn if we would profit by the disintegration of this vegetable matter to provide indispensable humus. We did increase our corn yield. And then came the day when we discovered that not only did our fields give us better results from meadows of brome grass, alfalfa and ladino clover, but we could carry more cattle at less cost than when we grew corn which had for a century been considered a staple crop in the Middle West.

Most important of all, we have been able to prove that an acre of our land sown to alfalfa, brome grass and ladino brings in the same gross in terms of cash as that of the 90- to 100-bushel-an-acre corn farmer, and less than five percent of the farmers growing corn in the United States raise as much as 100 bushels of corn to the acre. Moreover, our net profit in cash terms is at least two to three times per acre that of the corn farmer, since the heavy grass costs us approximately one-seventh in labor and gasoline and one-fifth in fertilizer as against the labor and fertilizer of the corn farmer.\*

I regret to say that there are still left in Northeast Ohio more than a million acres of eroded and depleted land of glacial origin lying abandoned, much of it tax delinquent. In Northern and Northwestern Ohio there may be found another million acres of land which once produced bumper crops but which today is untillable.

At Malabar we are bringing our woodlots back into forest production. We have abandoned the iniquitous pasturing of cattle and sheep in the woods. The ferns and undergrowth are returning. We cut ripe trees and those which are blocking the growth of young stock. At Malabar and on the farms of our neighbors we now see growing into maturity the fine hardwoods that once covered the entire area. By chance we have discovered from a nurseryman a semi-weeping ornamental willow, called *Babylonica*, which we use on the banks of our farm ponds and we have managed to bring back creek banks which had been washed out, thus saving soil and restoring the dream-like beauty which the willows once gave our Valley.

The net result of all this is that we are operating on a sound financial year-to-year basis, we are building up our capital investment in fertile fields, we are holding on our land the waters which fall from Heaven, and we are thus making a contribution to the total economy and safety of the American people.

And if what we are doing in our Valley and what the Muskingum Conservancy District is accomplishing on its entire watershed, were to be copied on the great watersheds of the United States, we would

\* Page 170, "Out of the Earth," by Louis Bromfield.

soon see a miracle of change. The once bubbling springs which were scattered over our rural landscape would be restored; the dry and eroded creek beds would be filled with rippling waters running between ferny banks and overhanging trees and shrubs; and the ominous fall in the water table in most parts of the country would be arrested and gradually built up to support our growing population.

We have it in our power to rebuild the fertility of the land by holding the rains where they fall. We can supply ourselves with renewing reservoirs of water in springs, lakes, ponds and streams and so terminate ruinous floods from rains and melting snow. Let us stop these floods at their source.



## A Nation for Civilized Living

PAUL B. SEARS, Chairman, Conservation Program,  
Yale University, New Haven, Conn.

**H**UMAN culture rests upon the unique art of human communication. Few experiences are more rewarding than to be able to establish or restore communication between individuals or groups. On the other hand, there are few experiences more tragic than the breakdown of communication between individuals or groups.

For example, there is grave need of clearer mutual understanding between such groups as the engineers and biologists, between statesmen and scientists in general. The pigeon-holing of valuable reports made by scientists to Government has cost us much, as has the failure of administrators to secure the best scientific advice. During World War I, I saw a million dollars worth of planes flooded because someone selected a nice grassy area in a forest country for a landing field. Any botanist, with a little study, could have reported that the grass was a sign of annual flooding during the rainy season. Again, the neglect of Major Powell's recommendation for settling the arid West on a basis of water-distribution rather than rectangular homesteads has had really tragic consequences.

But communication is not a matter of words alone, whether written or spoken. It also involves the sharing of experiences. And it is from that standpoint that I wish to discuss planning.

The earliest evidences of human life are between 500,000 and 1 million years old. This means that before our day some 20,000 generations of our own kind have lived and died. Unless we wish to think ill of our forefathers, a considerable amount of wisdom has been accumulated during that sweep of time. Perhaps it is not lightly to be cast aside. After all, the thing which seems to distinguish man from his brother animals is the ability to pass along, in symbols spoken and written, the wisdom of the past. Thanks to this circumstance, we may have, if we choose, the benefit of vast, vicarious experience.

It would be interesting to know, if we could all be transported in time, how many of us would choose to spend a day with our great-grandparents, how many with our great-grandchildren. I am leaving out the element of pride and filial love and considering merely the element of curiosity. Would our choice divide us into say, conservatives and progressives?

For myself, I am an incurable conservative. This does not mean that I wish to see the injustices or stupidities of the past frozen into inflexible custom or that I resent the freshness and innocence of eye of the young. In the latter I frequently find a clearer insight into the meaning of the human adventure than their seniors have.

The gift of earth to man is its own antiquity. This planet had been immeasurably long and deliberate in preparing for him. The plants and

animals upon which man depends for survival were here in place some millions of years before his advent. Without the generous grasses and sleek cattle, human existence would be a sorry picture. We forget this when we wait impatiently behind a gleaming Cadillac for the green light, sitting envious in our Plymouth or Ford. For us the joy of living languishes until our radio can be traded in for a 24-inch television set. We eat out our hearts for Palm Beach, when a measure of comprehension might turn our township, even our back yard, into high adventure.

There are many things that disturb me in the world of today. The worst of these is fear. Our Nation today is almost neurotic, and hostile forces shrewdly play upon that fact. The cause is an almost unspeakable one—by which I mean that no one dares admit it. We have, without reason, allowed ourselves to be thrown upon the moral defensive. This we hide with bluster and do not concede even to ourselves. We fear, and we might as well admit it, that others will capture the imagination and loyalty of the world masses as we cannot. Those who oppose us have promised everything—work, plenty, peace, housing, and culture—to the common man. Most of all they have promised him security and world-wide brotherhood—all for a modest consideration. All he has to give up in return is the dreadful responsibility of making his own political decisions and managing his own property.

This, of course, is nonsense, but it is complicated nonsense, and none the less dangerous for that. Because we have at present the highest standard of living in the world, with enough space and natural resources to support it, we are easily pictured as the villain in the play. And I am convinced that secretly we, and especially those of us in positions of responsibility and influence, may be wondering whether there is not, after all, a grain of truth in the bushels of chaff. After all, the big lie can work subtly on its victims, as well as upon bystanders.

The truth is that we, not our opponents, represent the really revolutionary movement among mankind. Climaxing nearly two thousand years of struggle to assert the spiritual dignity of the individual, we founded a Nation dedicated to the maintenance of his political, economic, and social dignity as well. This is the dynamite of the modern world. Its opponents, no matter how they invoke doctrine or employ the devices of modern technology, represent a system of repression of the individual which is old as organized empire. It is they who should fear our ideas, and with good reason.

But we, too, are asked to pay for the privileges we are promised in the great state papers on which our Nation is based. The price is not the surrender of responsibility for political choice and the management of our capital wealth, but rather the active exercise of that responsibility. Each of us, according to his capacity, must share in the formation of policy and in carrying it out. If we fail, the entire scheme collapses. The thing which can defeat us is not weapons or manpower,



but our own apathy. Next to fear, indifference is our deadliest enemy.

More than once I have been appalled to hear reasonably intelligent friends ask, "Why should I bother to vote? I am only one among millions." Since this attitude appeals to mathematics for its justification, let us remember that there is an answer from the same source. In the beautiful system known as the calculus we learn indeed that certain quantities can be so small as to be negligible. But we learn also that, given trend and direction, each infinitely small value of an infinite number of such values does its share to give form to the whole. Translating this into human action, trend and direction have been given by the revolutionary principles upon which our Nation is based. All that is required is that each of us do his best to exemplify those principles. Then, and then only, will the whole take form and maintain it.

Your organization is devoted to the idea of planning, and "planning" has become a political bad word, not because anyone really disbelieves in planning, but because there are differences of opinion as to how it should be done, who should do it, and to what ends. Among all the critics of planning, I have never heard one with the nerve to say that he as an individual proposed to get along without planning his business, professional, or personal affairs. Even among those who enjoy the perfect security of life in our penal institutions do not deny themselves the luxury of considerable planning.

Certainly the birth and launching of the United States of America represents one of the most superb jobs of planning in all history—superb not only in form, but in the manner of its accomplishment. Colonies differing as greatly as Massachusetts and Georgia in their social patterns, economic and other interests, came together to hammer out a Constitution, that is, a plan. And it was literally hammered out. Countless suggestions and objections had to be weighed and adjusted, compromises made, conflicts of interest recognized and dealt with. This was possible because back of all differences was the common purpose to establish a free Nation of free men. And when the task had been accomplished, it could be said by a foreign observer that the American Constitution was the most perfect work of the human mind to be struck off in so brief a time.

Here then, both in spirit and performance, is our model for the art of planning. And in active planning I see a powerful remedy, both for the fear and the apathy which are today our worst threats. But first we must recognize that there exist two schools of thought on the subject, in our own country as in the world at large. One group holds, quite sincerely, that our Nation is so vast and so complex that planning can only be done at a powerful central source. From evil necessity, our military planning is being carried on in that fashion now, and anyone who has been much in Washington knows how much harmless information now bears the label "Classified."

By contrast the other group of opinion—and you will find it represented from Maine to Texas—holds that plans must be made by those on the spot, who will have to live with the results. This idea calls for a good deal more responsibility on the average citizen than he now takes, perhaps more than he will take. And it assumes that satisfactory planning for the Nation as a whole must emerge from sound planning at local levels. This of course is a matter of faith, but we rest, in the last analysis, upon faith.

As to the purely technical merits of these two views, only time will tell which is the sounder. My own judgment, based upon considerable observation, leads me to trust responsible local planning, but even if the results were not in the end so smooth, I should support it for other reasons. On principle, it offers a challenge to each citizen to acquaint himself with local problems and to take part in their solution. This challenge may not give him security, but it gives him something infinitely more important which is the right to his own political and economic dignity. It also shortens the chain between the payment of taxes and their expenditure for the public good. The shorter that chain, the less cause any individual will have to complain of waste, for the greater will be his chance to do something about it.

To be concrete, let me suggest a plan for such local planning. The unit can be what it may—a valley, a county, township, or city. Each will have its distinctive physical features, its problems, and its conflicts of interest. Each also has its assortment of talent, legal, engineering, administrative, and so on. Each has that latent but incomparable American quality of rising up for community service when the challenge is great enough.

The first essential is information. Newspapers are obvious, so are the schools. In how many of the latter are the simple geographical and historical facts, or even the natural science of the immediate locality taught? The amazing food production of Great Britain during the last war and since, is based largely upon land capability surveys directed by Sir Dudley Stamp and carried on with the aid of school children. No one can laugh that off.

In the adult talent of any community there is material for special committees to collect information on all sorts of pertinent matters. There is need to know what the laws will permit and how they may need to be modified. There is need to know what is physically possible, what facilities are needed, and why. Especially is there need to bring into the open—not conceal furtively as we too often do now—the legitimate conflicts of interest which must be matched and solved in civilized fashion. When these things are done, then I suggest the most important answer of all will begin to take shape. That is the answer to the question, "What kind of community do we want?" Once this is answered, there need be no fear, nor will there be any reason for apathy.



## IN THE STATES

### STATE PARKS

#### Roll Call of the States\*

*New York.* James F. Evans, Director of State Parks, reported:

The pace of the capital improvement program in New York State Parks began to slow a little in 1952, but substantial additions were made, especially to the parkway system. With new facilities and a little better weather than the two preceding years, attendance was up about 8% to approximately 23 million and revenue up about 15% to over two and a quarter million dollars.

**WESTERN REGIONS.** The Niagara Frontier region opened its second link of the West River parkway, completing the loop between the Grand Island Bridges. A substantial start was also made in rehabilitation of the Falls reservation area. The big news in this region was in the planning field. The long-awaited park and parkway study and master plan for the Frontier was released by consultants in August. High priority recommendations in this report, including a new park area south of Buffalo, are now submitted and under consideration as Budget requests. The Allegany region continued its unspectacular but effective overhaul of Lake Erie State Park and the camping facilities at Allegany State Park.

In the Genesee region, facilities were enlarged at Hamlin Beach and another substantial portion of parkway grading let which takes this route well past Braddock Bay. Appraisals for land and final plans for structures got under way in and near the parkway destination at the Rochester city line. A special appropriation permitted a start on restoring and protecting the Lake Shore Line on the east side of Braddock Bay.

**CENTRAL REGIONS.** In the Finger Lakes region, progress was made in high water protection at Fairhaven Beach, and plans and surveys begun to correct flood conditions at Watkins Glen. Substantial additions were made to camping facilities. The Central New York region resumed construction on Verona Beach, completing the water system and maintenance center; and began the relocation of roads and overhaul of day-use facilities at Chenango Valley State Park. The Thousand Islands region finished the acquisition of land and began primary de-

\* Roll Call of the States at the 32nd Annual Meeting of the National Conference on State Parks, held at Custer State Park, S. D., September 11-15, 1952. Other papers have appeared in *PLANNING AND CIVIC COMMENT*, December, 1952.

velopment of the new Wellesley Island area, completed enlargement, of facilities at Westcott Beach, and assembled data on various sites for the proposed new park area in St. Lawrence County authorized by the 1952 Legislature. Because of the possible imminence of the Seaway development and its effect on some of the best prospective cites, no selection has yet been made.

**DOWN STATE REGIONS.** In the Palisades region, work was continued on the Lake Welch and Anthony Wayne areas, and the camping portion of the Lake Welch Area is now ready for use. Real progress was made on the Palisades Parkway. Three contracts, two for paving and one for structures, got under way in 1952; and will result in opening a useable 12 mile stretch of the Parkway from Mt. Ivy to Bear Mountain bridge in 1953. Work also got under way on a new water system for the main Harriman and Bear Mountain areas. In the Taconic region, excellent progress was made in acquiring lands around Lake Taghkanic, for the Sprain Parkway, and for the northerly construction of the Taconic Parkway. A twelve mile grading and structure contract on the Taconic, taking it to Route 82, was completed and paving is scheduled for early 1953. Studies were continued throughout the year on the establishment of an added State park area in Westchester County.

**LONG ISLAND REGION.** The Sagtikos Parkway, completing the easterly loop between the Northern and Southern State Parkways, was opened to traffic in fall of 1952. Work began on the Sunken Meadow Spur and continued on the Captree Parkway where all work up to the bridge itself was virtually completed. The sheer volume of parkway traffic became more of a critical problem than ever in 1952. The annual counts for both Northern and Southern are over 20,000,000 vehicles. A comprehensive plan has been evolved for planning and financing an enlargement of the Southern State Parkway to six lanes, and widening and lengthening of the Meadowbrook and Wantagh Spur, using the powers of the Jones Beach State Parkway Authority. This plan is now receiving legislative consideration. In the parks, at Jones Beach, a full scale overhaul of the pool and the West Bathhouse got under way; also another of the popular overlook parking fields. Improvement of commissary facilities for the concessions was started.

No new outright park areas have been added since last report. In fact, negotiations are now under way for the leasing of a large park of the Fort Niagara area back to the Army for defense purposes. However, negotiations are under way for an important addition to the park system. The fee title to the famous Bayard Cutting Arboretum was left to the Long Island State Park Commission many years ago, subject to a life use. The beneficiary, Mrs. James has now indicated her intention to relinquish this life use, so that this valuable area,



privately improved and developed as an arboretum for many years, can come into public custody. It is near Hecksher State Park on the south shore of Long Island.

Good planning progress was made in coping with present damage and future threats to park lands from high water on Lake Ontario. Arrangements have been perfected for participating surveys already under way by the Federal Beach Erosion Board, to make recommendations for protection and beach-building structures.

*Alabama.* James L. Segrest, Chief Division of State Parks, Monuments and Historical Sites, Alabama Department of Conservation, reported:

We feel that we have made much progress by way of additions and betterments to the State Park System of Alabama during the past year. Our Director of Conservation, the Honorable Earl M. McGowin, a former State Legislator for twenty years, has shown a deep interest in our recreational program. Through his efforts a legislative appropriation was secured to purchase for our Department from the Tennessee Valley Authority 2200 acres of land in Northwest Alabama now called Joe Wheeler State Park. Within this new major park there are seventeen brick buildings (five of which are two-story) and seventeen frame buildings. On a portion of this area there will be constructed the State's first Negro park. Work on it has already begun. Plans are in the making for two more Negro parks to be commenced in the very near future.

Our Director has also secured for the State on Mobile Bay in Southwest Alabama an area which has been named Meaher State Park. A contract has been let for the dredging and building up of this area for conversion into a recreational center along the Bay.

Within the eight major parks of our State there are ninety-three miles of paved roadways. Of this amount, fifty-six miles have been completed this year. Thirty-six miles of roadway are in the process of being paved, but will not be completed until next year.

The Alabama Department of Conservation has built as part of the State Park System nine public lakes having a total area of 847 acres. This year, 254,000 fish, weighing 80,000 pounds, have been taken from these lakes.

We have acquired in North Alabama property adjoining May's Gulf and a scenic drive along this little grand canyon is being prepared for pavement. May's Gulf is the deepest canyon East of the Rockies. Near May's Gulf, in DeSoto State Park, we have also acquired the property surrounding DeSoto Falls. This magnificent waterfall drops 120 feet.

Our park attendance for the year exceeded a million and a half visitors.

I think it will be interesting to state that the land acquisitions referred to in this report cost neither the State nor our Department one cent. The lands were conveyed by deeds of gift. The purchase price of Joe Wheeler Park included only the salvage value of the thirty-four buildings. The land was given free as was the property constituting Meaher State Park, the lands surrounding DeSoto Falls and the property adjoining May's Gulf.

Of major importance to our State Park employees was the passage of a constitutional amendment in May of 1952. In 1939 the Legislature enacted a state employment civil service system. Last May, at a state-wide referendum, the voters of Alabama approved a constitutional amendment which placed the State employment system upon a civil service or merit basis. This eliminates the feeling of insecurity by state employees during each session of the Legislature. All state park employees come within the classified services of the State and are thus protected.

*California.* Elmer C. Aldrich, Superintendent of Conservation Education, Division of Beaches and Parks, Department of Natural Resources, reported that progress had been made toward acquisition of the Calaveras South Grove of Big Trees. The Save-the-Redwoods League has pledged \$250,000 in matched funds and the United States will turn over to the State the corridor lands between the existing Calaveras North Grove Park and the South Grove.

The John D. Rockefeller, Jr. Redwoods Forest has been established to include all state lands within the Bull Creek Watershed. A bench in Founders Grove Humboldt Redwoods State Park, was dedicated on August 19 to Bernard Baruch, elder statesman on the 92nd anniversary of his birth.

The Division of Beaches and Parks has established a new position of Historian, following the creation by the Legislature of a Commission to take a census of all historical buildings and landmarks in the State and to make recommendations to the State Park Commission on registration and marking of historic sites.

The Division announces that it has produced a motion picture in color of the State Park System, film financed by the Department of Natural Resources and produced by the Bureau of Visual Instruction of the University of California.

During 1952 the Division issued its annual report; the text of a General Report on the Potential State Park system and Recreation Areas (by Frederick Law Olmsted, 1950); published the Rules and Regulations of the State Park System and half a dozen special reports on state park areas.

*Colorado.* J. V. K. Wagar, of the Department of Forestry reported: Colorado has no state parks. Reasons for this lack are three:



### I. A MINING AND STOCKRAISING ECONOMY.

Colorado and Wyoming, more than other Western States, are dominated by cattle and sheep men and metal miners. These people live vigorous outdoor lives amid attractive landscapes. Unlike industrial groups, they feel little need for state parks in which to find mastery through recreational activities. They believe fervently in private ownership of land. They oppose proposed extensions of public lands with equal vigor. They are well represented in legislative halls.

### II. COLORADO A POOR STATE—FINANCIALLY.

New States are rich in natural resources, but poor in population and money. Colorado is the seventh largest State in the Union, but has only a million and a quarter inhabitants. Funds are understandably limited for projects beyond roads, schools, and similar institutions.

### III. MUCH OF COLORADO IS PUBLIC FOREST OPEN TO RECREATION.

Colorado has two national parks—259-thousand-acre Rocky Mountain National Park and 51-thousand-acre Mesa Verde. There are 11 national forests totaling nearly 14 million acres. There is one large state forest. Colorado Springs, Denver, and other towns strewn along the front range of the Rockies have large city parks extending into alluring canyons and mountains. Thus nearly one-fourth of Colorado consists of forested mountains open to the public. Many citizens believe these areas adequate.

Colorado needs two additional national parks—a Great Plains national park and one in the Green and Yampa Canyon area—if she is to rate with neighboring States in number and extent of such areas, and if she is to protect her resources adequately. She needs several state parks to provide recreation for towns upon the eastern plains and to protect historical, geological, and natural areas now open to destruction.

Many know these needs, but we have not found an organization to manage necessary state parks. The National Recreation Association, with Harold Lathrop at Denver, is helping. We soon shall discover a way to establish state parks and to fit them into our land and economic pattern. We assure you that it is only a matter of time.

*Connecticut.* Elliott P. Bronson, Supt. of State Parks, State Park and Forest Commission, State Park Division, reported on the activities in 1952.

Probably the most interesting occurrence in the Connecticut State Parks this year was the opening of Harkness Memorial State Park at Waterford with a recreation program designed particularly for handicapped people.

Mary Stillman Harkness gave her estate to the State of Connecticut with the stipulation that it be used for health purposes. It was turned over to the State Park and Forest Commission. A program was designed to provide swimming, outdoor recreation and camping for physically and mentally handicapped children and blind adults, particularly war veterans.

Another year the large mansion on the premises will be opened as a museum, housing the famous collection of Rex Brasher bird pictures and the flower gardens will be maintained for the pleasure of the public. These gardens are among the finest in the Eastern United States.

Using funds collected from parking and camping, the Division made alterations in the physical layout of two parks in line with a long-range plan. The first, at Hammonasset Beach, Connecticut's largest active park, consisted of reassigning the camping area and providing standard sized lot for each camp party not less than 40'x50' in size. Five hundred campsites were moved from their location near the beach to safer and more attractive sites, permitting the creation of larger parking areas for day-use visitors next to the beach. One thousand camp lots are available at this beach and on busy days nearly 6,000 people were in residence. The other major change was at Burr Pond State Park, which is a very attractive inland swimming area in Litchfield County, and consisted of creating a new parking area away from the beach. The old parking area next to the beach was converted into a place for playgrounds and sun-bathing.

Although the attendance figures have not been completely compiled as of the first of September, it is evident that we have had a much larger attendance than in the past three seasons in Connecticut. Our returns from parking fees as of August 29th, camping fees and other special services total \$220,000 as against \$188,000 in 1951.

Appropriated funds from the General Assembly of Connecticut for 1952 for administration and maintenance are \$365,700 as against \$351,431 in 1951.

Plans for the future include a request for half a million dollars to preserve the beaches at two of our large shore parks which are being badly damaged by beach erosion.

*Georgia.* A. N. Moye, Director, Department of State Parks, State Division of Conservation, reported that Allatoona, with an area on Red Top Mountain and George Washington Carver area, were opened to the public during the year. The park is on the shores of the huge Allatoona Lake created by the construction of the Allatoona Dam.

An authority has been created for the purpose of developing Stone Mountain into a State Park.

The attendance each year is growing. During the past year all park areas were improved and in many cases new buildings were erected, boat docks, dams and spillways were constructed or repaired and most buildings renovated. Nearly half a million pine seedlings were planted on park property as part of a restoration program.

The State has eighteen state parks and group camps and six under construction.



*Indiana.* K. R. Coughill, Director, State Parks, Lands and Waters, Department of Conservation, reported:

### I. HIGHLIGHTS

1. Dedicated Kankakee River State Park as 18th Indiana State Park.
2. Record Attendance.....1,934,307.....Paid Admissions  
329,518.....Children (FREE)  

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2,263,825.....Total  
15% increase over last year
3. Over One-Half Million Dollars worth of improvements accomplished during past fiscal year.
4. Great Lakes Park Training Institute again held at Pokagon State Park. Over 200 attended from 14 States, 3 Canadian Provinces and Washington, D. C.

### II. ORGANIZATION CHANGE

1. Supervisor of Operations job established to give Central Office more frequent contact with field.

III. No Important changes in Administrative Procedure.

### IV. FUNDS AVAILABLE FOR IMPROVEMENTS..... for 1952-53 FISCAL YEAR.

\$98,000.00.....Kankakee River Acquisition Fund  
353,000.00.....Rotary Balance  
239,000.00.....Post War Funds

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\$690,000.00.....Total Available  
FOR OPERATIONS.....(1952-53 Fiscal Year)  
\$875,000.00.....Earnings  
207,000.00.....Appropriations  

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\$1,082,000.00.....Total Available 93% Self-Supporting

### V. ACQUISITION AND DEVELOPMENT (1951-52)

\$500,000.00.....Spent on improvements. Many improvements were accomplished in almost all areas with emphasis on major maintenance and improved facilities for family use.

66,000.00.....Kankakee Land Acquisition

### VI. PROGRAM FOR NEXT YEAR.

1. Continue toward goal of having state park facilities within easy access of every Indiana citizen. Whitewater, Kankakee, and Lincoln State Parks to receive special development attention.
2. Conservation education program will continue with emphasis on youth education.

3. Also continue Outdoor Good Manners education program. Use of pamphlets and rubbish bags will continue.
4. Will continue to emphasize preventive maintenance work as well as general maintenance work.
5. Have prepared a development program to be submitted to Legislature amounting to \$523,500.00 worth of improvements designated for all major state park properties.
6. Our In-Service-Training work will be continued in order to keep employees alert to their public service responsibilities.

July 1951 Balance	Income 1951-52	Expenditures 1951-52	Balance July 1952
Rotary	\$394,508.36	\$834,983.70	\$ (895,279.35
Appropriations	207,500.00	.00	(188,466.42 (Est.)
Kankakee	164,745.53	.00	66,378.41
Post War	418,076.72	193,000.00	407,301.28
			203,775.44
	<hr/>	<hr/>	<hr/>
	\$1,184,830.61	\$1,027,983.70	\$1,557,425.46
			New Post War
			35,000.00
			<hr/>
			\$690,388.85

*Iowa.* Ray Mitchell, Superintendent of State Parks, State Conservation Commission, reported:

Probably the two greatest highlights of State Parks in Iowa the past year has been the dedication of two new artificial lakes. Nine Eagles, a 57-acre lake, was dedicated June 22 of this year. Development of this area has been limited to the building of an access road with adjacent picnic areas. A new residence and service building is under construction at this time; however, legislature will be asked to provide additional funds next session to add other facilities such as drinking water supply, bathhouse, and shelter building. Rock Creek Lake, a 640-acre lake, was dedicated on August 24 of this year and is the largest artificial lake yet constructed in Iowa. These lakes are purely for recreational purposes. Legislature has not appropriated funds for the development of this area; but it is hoped that they will do so in the next session.

The third Iowa Teachers Conservation Camp which utilizes a group camp in one of our state parks attracted a total of 117 teachers in 1952. This camp features college credit for both secondary and elementary teachers, daily field work and outdoor living.

There have been no major changes in the administrative procedure in the past year; but, the Budget and Financial Control Committee, an appointed committee of the legislative body, allocated funds last spring to make an investigation of commission administrative procedure. By and large, the investigating firm's recommendations were not severe in requesting changes in the present commission procedure. There may, however, be a few minor changes brought about by their efforts.



Approximately \$1,250,000 remain available for capital improvements and development from past appropriations. This money has been earmarked for specific projects, but due to shortage of critical materials and restrictions on constructions, these funds have not been obligated. Appropriated funds for maintenance and operation of the Lands and Waters Division for the fiscal year will be \$475,000 plus estimated receipts of \$70,000. Of these funds, approximately \$285,000 will be spent for the maintenance and operation of parks, the remainder going for Forestry, Waters, and Administration.

In the way of major developments, Iowa is just completing a new 445-acre artificial lake at Creston. The artificial lake program as outlined by the Iowa 25-year conservation plan will continue next year with the purchase of land for two other lake sites, one in southwestern Iowa and one in the west central section of Iowa. A survey is being made in Polk County near Des Moines for another possible lake site.

*Kansas.* Clyde A. Scott, Game Management Superintendent, reported:

Our director of the Kansas Forestry, Fish and Game Commission, Mr. Dave Leahy, was looking forward keenly to the opportunity to attend this conference, but, an unavoidable conflict developed which prevents him from attending so he asked me to pinch hit for him.

Nature did not endow Kansas with spectacular mountains, forests, lakes and streams that are to be found in practically every other State. Kansas is a prairie State, devoted largely to intensified agriculture and industry. If Kansas is to have lakes or recreational areas they must be built.

In the year, 1925, a decision was reached by the Fish and Game Commission to build our own lakes and provide our own recreational opportunities.

Today, Kansans enjoy lake-side picnics, rides and drives in the twenty-two state parks which were built, acquired or are being operated by the Fish and Game Commission. No Kansan now is without some park or lake within an easy drive whereby may be enjoyed the luxury of boating, the thrill of fishing, the zest of swimming or the friendship of nature now at command in more than 13,000 acres of lakes and parks owned by the State and under the direct supervision of the Commission.

The increased attendance at the state parks in the more recent years revealed the need for further improvements and development of the state park system. A major improvement program was launched, included in that program was the building of eleven new stone shelter houses at many of the parks, improved recreational facilities, new roadways and the planting of trees and shrubs in many of the parks.

More improvements are on the agenda for our parks this coming year.

Further developments are now in progress for the building of ten new state parks and this work will be underway as soon as the most desirable sites are located.

*Louisiana.* William W. Wells, Director, State Parks and Recreation Commission, reported:

The most important development in Louisiana State Parks during the past year was the appropriation by the legislature of an adequate operating budget of approximately \$250,000 for each fiscal year, and the appropriation of \$335,000 for new park construction for the biennium. This latter amount includes \$50,000 for the development of a negro 4-H camp and a \$25,000 special appropriation to complete the restoration of the Oakley Plantation House at Audubon Memorial State Park.

A major revision has also been made in the organizational set-up of the department. Legislation was passed authorizing the establishment of a recreation division and the department is now designated as the State Parks and Recreation Commission. The new law provides for a nine-man appointive board with staggered terms and two additional ex-officio members—the Governor and the Register of the State Land Office.

Additional operating funds to implement the recreation program were not provided by the legislature, so this phase cannot be made fully effective at the present time.

No new park areas were acquired during the past year and no additional developments were carried out, with the exception of the completion of a few minor construction items.

A major accomplishment during the past year was a very decided interest by the present administration in the development of an adequate park and recreation program. Many members of the legislature displayed an active interest in the development of the park system, and it seems that the department has achieved real recognition. The central office was reorganized and additional administrative and technical help was provided. Better qualified personnel have also been employed in park operations.

Next year it is planned to spend a great deal of time on the training of park personnel and in putting into effect better operating procedures. The capital improvement program is already under way and the major portion of it will be carried out during the current fiscal year even though the funds are available for a two year period. The largest part of the funds will be spent on the development of additional group camp facilities, picnic areas, museum exhibits and other features which will provide recreational opportunities for large numbers of people at a reasonable cost. No vacation cabins, lodges or restaurant facilities will be constructed under the current program.



*Maine.* Harold J. Dyer, Director, Maine State Parks, reported:

In the past year Maine has experienced the greatest recreational season in the history of the State which was reflected in increased attendance at all State Parks and Memorials.

Two new areas have been acquired. Vaughan Woods, 250 acres in Southern Maine; and Moose Point, 178 acres on Penobscot Bay. No immediate development of these areas is contemplated.

The development of Reid State Park, Maine's new seashore area, is being continued, utilizing the major part of \$100,000 made available by the 1951 legislature for capital improvements. Requests are being made to the incoming legislature for funds to continue this program and to further the development of other areas.

Particular stress is being placed on providing additional space and facilities for tent campers at State Parks. This overnight use has increased more than ten times the volume of use five years ago and it is steadily increasing. No special provisions are made for trailers. The needs for overnight cabins, resorts and hotels are met by private venture outside the parks.

At the State Memorials major repairs are in progress. A renovation of the museum at Fort William Henry is nearing completion with the installation of displays significant to the history of the area during the period of 1630 to 1690. Other historical areas are also being reconditioned as rapidly as funds permit.

The overall program for the coming year aims at continued plant expansion and preventive maintenance work permitting more efficient operation of areas and facilities.

*Michigan.* Arthur C. Elmer, Chief, Parks and Recreation Division, Department of Conservation, reported:

A combination of ideal weather, people's desire to travel, and what we consider a general movement involving the enjoyment of Michigan's out-of-doors, has resulted in our greatest park season both in the number of visitors and camps. As of September 1 approximately 12,000,000 visitors used our state parks, and 51,000 camping permits were issued.

The expansion of the Conservation-Correction program in which we are using prison inmates on park and recreation areas for construction, maintenance, and operation is the most significant of the accomplishments of the division this year. The legislature appropriated approximately \$430,000 for the operation of twelve inmate camps for the present fiscal year.

We tried again to get legislation permitting charges for admission or parking in the state parks. Much as we need the money this type of legislation is not popular with the legislators and we were not successful.

The Capital Outlay appropriation for the present fiscal year totals

\$380,000 of which \$300,000 is for new construction, \$60,000 for special improvements, and \$30,000 for repair and additions. Of the \$300,000 only \$10,000 is available for land acquisition.

Michigan with its rapidly expanding population (Detroit alone increased by one million persons in the last ten years) needs more land for park and recreation purposes and ways must be found to acquire it particularly in the southern half of the State where there are large areas of land unsuited for agriculture but admirably suited for public use.

The high water conditions of the Great Lakes necessitated the closing of Sterling State Park and is causing damage to others particularly along the shores of Lake Huron and Lake Michigan.

More than 100 schools participated in the outdoor camping education program and in excess of 20,000 youngsters used our group camps.

On the basis of information compiled annually by the National Park Service, covering all state park systems, the latest edition being to December 31, 1951, Michigan ranks third in total area of land administered for recreation, third in total overnight capacity, second in total attendance, and third in expenditure for operation and maintenance.

Because of Michigan's financial status (reported to be \$60,000,000 in the red) we will be exceedingly fortunate to hold our present appropriations in the coming fiscal year.

*Minnesota.* Lew E. Fiero, Director, Division of State Parks, reported:

The Minnesota State Park System has had a very successful season during the current year both in the number of attendance in her state parks and in the operations and receipts for services rendered. Reliable information cannot be given at this time concerning the total attendance in the state parks, but it is believed that it will exceed last year's attendance. It is quite possible the number will go over the two million mark.

One new park was placed in use, namely, the William O'Brien State Park at Marine on the St. Croix. This park has been improved by the construction of a new blacktop entrance road and the first public holiday on which park visitors were invited to use the park, some 400 cars were counted indicating a day's attendance of approximately 1,500 people.

Energetic repairs and improvements have been going on throughout the entire park system. It is encouraging to us that we hear many testimonials as to the services rendered in Minnesota State Parks. There have been very few complaints and a goodly number of letters of commendation.

This is election year in Minnesota and no doubt, there will be many new faces in the legislative session which meets after the first of January.



We still feel the pressing need of additional appropriations necessary to meet the needs of our 52 park areas. One of our most pressing needs as stated at the last conference is for a planning section in our division. We feel that it is of emphatic importance that before good standards of maintenance or improvements can be made a constant engineering staff must be procured. It is felt in our division that it is most uneconomical to try to maintain or improve any park facilities without a central engineering staff.

On the whole, our state park system has operated to good advantage and we feel optimistic in the results that have been obtained.

*Missouri.* Abner Gwinn, Chief of Parks, State Park Board, reported: Missouri's system of state parks has had its biggest year during 1952. Attendance and use continue the trend which, following World War II, has been constantly increasing.

It is the prediction of our State's travel and tourist people, and of resort operators, that this increase has not reached the peak, and that use of our parks will be even more in the coming years.

The planning back of Missouri's parks did not contemplate that the parks would play anything more than a complementary role in the total of overall recreation and travel, both inter- and intrastate, and therefore, there is no emphasis on commercialization in planning and development. Our early master plan for the State did recommend a comprehensive system and additional parks to accomplish this, and I believe that this program, together with an entirely new phase we are entering, will absorb most of Missouri's efforts for several years.

Missouri has a constitution which lays the foundation for a program on Historic Sites and Structures, but no implementing legislation has as yet been established. The legislature itself, and the State Park Board, are constantly under pressure to provide such a program, and there has been some success along this line. The importance of such sites now, and in an increased way in the future, is without question, however, full recognition and the proper establishment of this seems to be the necessary first step which should be accomplished as soon as possible.

Important highlights of 1952 were:

1. Opening of Crowder Lake in General Crowder State Park.
2. Addition of General Pershing's Boyhood Home to Pershing State Park.
3. Extensive restorations on Arrow Rock Tavern in Arrow Rock State Park.
4. Expansion and improvement of Naturalist program.
5. Start on a land acquisition program planned to correct fringe encroachments.

6. Study and planning of a major park for Northeast Missouri, along with acquisition.
7. Restudy of master plan for Wallace State Park.

*Ohio.* V. W. Flickinger, Chief, Ohio Division of Parks, Department of Natural Resources, reported:

The Ohio Division of Parks, although only in existence for two and a half years, is making substantial progress in its program. Charged by the General Assembly to "create, supervise, operate, protect and maintain a system of state parks and promote the use thereof by the public", such a program reveals many facets, and inevitably, many problems.

A nucleus of administrative personnel has been selected and is being carefully trained. However, additional personnel is critically needed, if the public need is to be adequately served.

During the past year, attendance records reveal there were over 7,500,000 visitations to the state parks of Ohio. This is indisputable evidence that a large percentage of Ohio's eight million citizens used their state parks on one or more occasions during the year.

During the year under review, the Division acquired new park acreage totaling 1,038 acres, at an aggregate cost of \$239,000. Of this, 733 acres were for Lake Erie beach parks, providing an additional five miles of publicly owned beach and shore line. One tract involved lies east of Cleveland, the other being west of Cleveland and east of Toledo. The balance of the newly acquired land was at Burr Oak Reservoir in Athens and Morgan Counties, on a project jointly sponsored by the State and Federal governments, which affords both flood protection and a permanent 633 acre lake.

Development of facilities is under way on a number of areas which will serve as major park units. This development work includes five parking areas, 25 latrines of a design approved by the Department of Health, five beaches, several service and concession buildings, and other facilities. Two dams to impound lakes totaling 2500 acres are virtually complete. Plans were well advanced, or completed ready for advertising for bids, on five other lake projects. Construction of an honor prison camp at the Hueston Woods State Park was begun.

Survey work has been carried on to provide  $1\frac{1}{2}$  miles of access road across marsh land to Crane Creek Beach on Lake Erie. Plans are being developed for cabins and other facilities at Hueston Woods, as well as for the remodeling of an existing structure for a dining lodge at Punder-son Lake in Geauga County.

The Division has been enlarged to establish a full time construction section, and will be further staffed as funds permit.

For the fiscal year just completed the Division expended over \$550,000 for maintenance and operation. During the same period over



\$2,100,000 has been spent for additions and betterments, including land acquisition.

We contemplate a minimum expenditure for the next fiscal year of \$651,000 for maintenance and operation, with \$3,500,000 available for capital improvements, *i.e.*, sanitation, water supply, vacation cabins, and general park development. However, budget requests are being presented to the 100th General Assembly (convening next January) for maintenance and operation of approximately \$2,000,000 per year, which envisions our ultimate goal in operations. A ten-year program for capital improvements in excess of \$26,000,000 has also been prepared and is to be presented. This includes acquisition of additional lands, development and expansion of new and existing facilities and the purchase of capital equipment.

Ohio's park program is being built on the solid foundation of efficient organization and competent personnel. If adequate funds are forthcoming, it can be predicted that the development and use of her state park areas, inherently as fine as any in the Nation, will serve well her millions of citizens. It is to serve our own Ohio people, we deem our primary obligation. After that need is served, there will be further opportunity to encourage the influx of tourist dollars, since Ohio is truly the crossroad State of the Nation.

*Oklahoma.* Ernest E. Allen, Director of State Parks, Division of State Parks, reported:

*Highlights of past year.*

The Oklahoma Planning and Resources Board, Division of State Parks let contracts to three firms of Architects to prepare plans and specifications for construction of 4 new Ultra Modern Lodges and cabin areas, one of which is for Negroes exclusively, to cost approximately \$5 million in self liquidating bonds.

*Organization Change.*

R. E. "Dick" Chiles resigned as Director of Parks to take a position with the Oklahoma A & M College. Ernest E. Allen a member of Mr. Chiles' Staff was appointed to fill the position.

*Capital Improvement funds for '51-'53.*

\$215,000 all State Parks

\$ 70,000 Texoma Park

\$114,000 Sequoiah Park

\$399,000

*Acquisition and Development.*

Texoma State Park 2600 Acres

Sequoiah State Park 3700 Acres

*Accomplishments of the past year.*

Construction of access road to Quartz Mt. State Park Lodge and Cabin site, 2½ miles.

Black-top Park roads, Cabin construction, Residence for Employees, 2 water purification plants, Boat Dock houses, Picnic area Development, Swimming Beach Improvements.

*Planned Program for next year.*

Construction and opening of the 4 new Lodges and cabin areas  
Addition of wing of rooms and Recreation Hall to Lake Murray lodge.

*Oregon.* C. H. Armstrong, State Parks Superintendent, reported:

The State Parks Department of Oregon has embarked on a new program during the past year, that of overnight camping. In this program two areas of fifty and fifty-seven spaces each have been opened providing up to date facilities and paved roads throughout, as well as parking spots for cars. Provision is made for water and sanitary facilities as well as shower baths and a wash room in each area. Ten electric stoves were installed and other spaces provided with a small wood-fired stove for cooking and heating purposes. Two other areas are now under contract and a third is expected to be under contract during the current month. The two completed areas are located at Silver Falls, twenty-eight miles east of Salem, and at Wallowa Lake, in the northeast corner of the State. The contracts now under way are located at Emigrant Springs, between Pendleton and La Grande, and at Cape Lookout, on the Coast near the city of Tillamook. The one to be contracted is located about five miles north of the city of Newport on the Coast Highway at Spencer Creek. It is probable that still another contract will be let within the year for a thirty-campsite area at Humbug Mountain, six miles south of the town of Port Orford, on the Southern Oregon Coast.

It is found that with the increasing leisure time of the public and their desire for recreation, greater use is being made of the state parks. The attendance for 1950 in the Oregon State Parks was 3,664,000; in 1951 this jumped to 4,418,000; and this year the present figures indicate there will be approximately 5,500,000 visitors. All of this calls for additional expenditures and enlargement of the park areas as well as new parks themselves. To keep up with the trend, it is necessary that additional facilities be provided. During the current year \$570,000.00 was provided for these improvements. This is broken down to \$26,000.00 for surveys, \$91,000.00 for purchases of real property, \$300,000.00 for park improvements, \$8,000.00 for purchase of equipment, and \$145,000.00 for park road and parking area improvements and extensions.

In the enlargement program, the State has arranged for the development of an area at Gold Hill to be named "Ben Hur Lampman State Park". This area is located on the Rogue River across from the town of Gold Hill and comprises approximately ten acres. Development will be made for use during the 1953 season. Another area on the Coast, immediately south of Bandon, is being studied and it is



hoped that arrangements can be made for the purchase of this beautiful beach site of about 45 acres. Application has been made to the Federal Government for a fifty-acre tract of land on Tillamook Head which will be a part of Ecola State Park. This is in Clatsop County and located between the cities of Cannon Beach and Seaside and is a promontory closely connected with the early history of Oregon first sighted by Clark of the Lewis and Clark Expedition in 1806.

The Highway Commission is responsible for the operation of the state parks in Oregon and has been very cooperative in the matter of park development. It is their desire that the parks and areas which are now under the control of the Parks Department be developed for their greatest use, and it is felt that under the present procedure within a very few years vast improvements will be made, even in the face of the additional use of the park areas.

*South Carolina.* C. West Jacocks, State Park Director, S. C. State Commission of Forestry, reported:

Of outstanding significance in South Carolina's operation of its state parks for the past fiscal year was the unprecedented attendance. In a relatively small State with a population of slightly more than two million people, we estimated that  $3\frac{1}{3}$  million individuals visited our 21 areas.

There has been no change in our organization set-up or in our administrative procedure.

The total appropriation for South Carolina's State Parks for the fiscal year 1951-52 amounted to \$374,800. Of this total, \$292,300 was for operations leaving \$82,500 for capital improvements. All funds are appropriated by the State Legislature and all revenue derived from State Parks' operations goes to the general State Treasury.

No additional state park areas were acquired for the fiscal year 1951-52, although an appropriation of \$50,000 was made for the acquisition of an area on the seacoast for a state park for Negroes. The area has not yet been acquired and the funds are still available. Development was begun on two new parks.

Other than this fund for the acquisition of a new area for Negroes, we have no appropriation for capital improvements for the 1952-53 fiscal year. We will, however, construct a superintendent's residence, build a new picnic area, and plant several hundred acres in trees to restore losses sustained in a forest fire, having a special appropriation for the work.

We feel highly encouraged over the success of an educational program broadcasted weekly over 10 stations to school classes on subjects of science, conservation, history and nature. We manage to tie into each broadcast the idea behind State Parks.

*South Dakota.* W. E. Begalka, Asst. State Forester, in charge of Park Development, reported:

First, may I state that this park here, Custer State Park is set aside from the other parks of the State, although supervised by the Game, Fish and Parks Department and the able Mr. Price, Superintendent, this park is, you may say on a self-supporting basis, therefore not as the other parks under appropriations.

East of these Black Hills, especially east of the Missouri river, parks are being established pretty much throughout the whole area. We now boast having 9 State Parks, 12 State Recreation areas, 11 Recreation development areas and 17 co-operative Recreation areas.

The park appropriation for the past fiscal year was one hundred thousand dollars; of this amount seventy-five thousand was levied through taxation and twenty-five thousand from the hunting and fishing license fund, however this has been increased for this fiscal year by fifty-six thousand dollars, the levied amount remaining the same.

Our development program may not be progressing as rapidly as some of the districts or communities would like it to be; we are rather in our infancy. Since the year 1946, I think a great showing has been made.

Our tree program is rather extensive, since the beginning of the park program, we have planted and cared for approximately 670 acres of trees and shrubs within our park boundaries proper, not to mention the millions of trees handled and sold to ranchers and farmers.

Our big program starting now and that will be in force for several years to come is the road-side park system. The Game, Fish and Parks Department jointly with the State Highway Department entered this program which requires the purchase of the tracts of land selected, furnishing the necessary facilities. Another item is the water systems for most of our parks. This is an expensive undertaking and really a *must*. Bids are soon to be let for some well work. Our road system, as Mr. Woodward stated, is getting better, the roads in the parks proper are pretty well taken care of, but the township and county roads connecting with the park entrance roads are the question. However, the townships and counties are beginning to realize that the parks are being used to an extent they now feel they are becoming obligated to further this road work. Still another matter that was a headache last winter and will be this fall and winter is rodent control: the cottontail and jack rabbit. I am sure it will be worse this winter. We expect to do considerable spraying late this fall; this will be mostly on the new plantings. Snowshoes have been ordered as well as additional shotgun and rifle ammunition. So late this fall and winter the eight District Park Supervisors will have, we hope, a control program that should show results.



*Texas.* Gordon K. Shearer, Executive Secretary-Director, Texas State Parks Board, reported that sanitation was made a prime objective of Texas State Parks for 1952. In a period when the State had the highest polio incidence on record, its park facilities were kept in operation with full approval of the Department of Health.

At the beginning of the park activities in the spring, park supervisors arranged schedules with the district health engineers and conducted on-the-spot inspections of the parks and their various facilities.

Water samples, both from the drinking supply and from pools, were submitted regularly to the laboratory of the Health Department. A report on each state park was submitted to the State Health Officer by a District engineer, and copies of the reports were furnished to the Parks Department.

The inspection trips were made the opportunity, also, for formulating a sanitation program for future seasons and for enlarged use of the parks. This program, translated into budget requests, was backed by a letter from the State Health Officer.

Budget procedure was increased immensely in response to requests of a new state budgeting agency. This called for 140 legal-sized pages. Proposed expenditures were classified as to capital outlay, maintenance, salaries, administration, etc. There was classification also to show source of income from which the expenditures were to be financed. Major revenue classifications were income from oil, park earnings and legislative appropriation.

A new state property accounting law became effective and required actual inventory of all park property down to individual items in each park. A property custodian was made responsible for all items.

Drouth hampered some operations. Despite the weather handicap park attendance climbed to a new high of more than three and a quarter million visitors. Park receipts gained 9 percent.

Contracts were made with architects for two of three proposed inland lake lodges. (Incidentally it might interest you to know that one will be in Eisenhower State Park, near the General's birthplace.)

No new park site was acquired during the year. Looking to the future a field trip was made with representatives of the National Park Service to pick out desirable recreation areas on the proposed Reclamation Bureau's project on South Canadian River. A similar joint field trip explored new areas of Palo Duro Canyon State Park.

Co-operating with the engineering staff in the Santa Fe Office of the National Park Service, a new entrance was planned for San Jose Mission, only national historic site in Texas.

*Washington.* John R. Vanderzicht, Director, Washington State Parks and Recreation Commission, reported that the highlights of the 1952 season were:

- (1) Great increase in attendance
- (2) The acquisition of several thousand acres of park properties.
- (3) The development of six new saltwater moorages.

The Washington State Parks have experienced nearly 500 percent increase in attendance in the last three years. Noticeable from the operational standpoint is the tremendous increase in overnight camping, which has increased from less than 20,000 to nearly 150,000 in a three-year period. The installation of trailer sites this season has been well received.

The major acquisitions were lands made available to the State of Washington by the National Park Service, representing the Bureau of Reclamation, the Bureau of Land Management, and the National Forest Service. Several fine park properties were turned over to the State of Washington in the new Columbia Basin area. Recreational sites on three lakes and a 165-foot waterfall are included in these Columbia Basin properties.

Several hundred acres of Pacific ocean beach may become state park property, and a portion of Mount Pilchuck will become a winter sports area. Several large areas of suitable State land have been set aside for park purposes and a few available park sites near large centers of population have been purchased outright. Six new saltwater moorages have been completed and put into operation during the present season, three in the San Juan Islands, and three in Puget Sound, a short water trip from major population centers of the State. These moorages have been received with tremendous enthusiasm by the 40,000 private boat owners in the Puget Sound area.

Development of new park areas will continue in the State of Washington in an effort to provide adequate recreation for the rapidly increasing population of the Evergreen State.

*West Virginia.* Kermit McKeever, Chief of State Parks, Conservation Commission, reported:

Today, more than ever, the public is being attracted by the wonderful vacation opportunities our state parks have to offer, and each year, the demand for our cabins and recreational facilities is becoming greater.

After two years of decline in cabin rentals, the past year has shown an increase of 13 percent. Rental rates are lower for the spring and fall seasons which is effective only during the period before Memorial Day and after Labor Day, at which time the recreational facilities are not readily available to the public. This practice has increased the number of cabins rented for the *pre* and *post* seasons.

We propose to construct new cabins when more funds become available, in order to help meet the ever increasing demand.

Attendance and usage of the cabins for the past year is as follows:



Total Park Attendance	1,560,363
Cabin Weeks Rented	1,323
Number Persons Renting	5,952
Number Nights Rented	41,664

Our current biennial budget for capital improvements is approximately \$560,000, and our park system is requesting \$1,269,000 for the next two years, beginning July 1, 1953. It is felt that a goodly portion of this request will be forthcoming when our Legislature meets in January.

We are now formulating plans for acquisition and development of a new area on the Little Kanawha River Water Shed in the Western part of the State.

During the past year, in addition to the maintenance, the following capital improvements were completed in part or as a whole:

- 6—Parking Areas
- 2—Clothing Change Shelters
- 1—Modern Bathhouse
- Wooden Rustic Walks
- 15—Miles Park Roads, Trails and Bridges
- 2—Water Wells
- 5—Dwellings for Employees
- 4—Modern Latrine Units
- 4—Work Shops and Garages
- Restoration of Patteson House (A Museum at Carnifex Ferry)
- Battlefield State Park
- 7—Drinking Fountains
- Museum Cases
- 2—Major Park Entrance Treatments
- 2—Enlargements of Commissary, Kitchen and Dining Room Facilities
- 1—Game Court
- 1—Concrete Beach, developed on a flood control and navigation lake with fluctuating water level
- 3—Playgrounds developed or major additions
- 11—Picnic Areas expanded

Proposals for the coming year are:

1. Purchase of one area under lease and one new area, as well as taking over of one area acquired by will.
2. Construction of:
  - (a) One sixty-two acre lake within one of our present areas
  - (b) A lodge in one of our Allegheny Mountain Parks
  - (c) Additional quarters for employees
  - (d) Restaurant accommodations
  - (e) Bathhouse and sanitary facilities
  - (f) Shelters
  - (g) Et Cetera

## IN THE CITIES AND TOWNS METROPOLITAN AREA PLANNING

### Decentralization of Industry

ALFRED W. PEELER, Consultant, National Security Resources Board,  
Washington, D. C.

**T**HE OLD ADAGE to the contrary, notwithstanding, I am delighted to be here this morning and witness the assembly of so many of our citizens interested in the affairs of our great country. Many of you have travelled far to be present which makes it all the more important.

My subject today is "Decentralization of Industry" and I can think of no better way of decentralizing industry in an orderly fashion than by implementing the Industrial Dispersion Policy as announced by the President August 10, 1951, and activating the program as contained in a brochure entitled "Is Your Plant a Target?"

It is this program that I should like to discuss. It is a significant one and one which is certain to affect all parts of the country. Industrial Dispersion is not only a necessary defense measure but it will serve us well as a peace-time measure.

Although we are increasing our defense efforts, the danger of atomic attack grows and demands that positive policies be put into effect to obtain added security for our industrial establishment without jeopardizing its productive efficiency.

I, in common with many of you here, felt in 1945 that the world would not have to contend with a major war for a period of a great many years. But it was not to be. Historical developments, too numerous to mention, have brought us face to face with a new crisis. Coupled with this crisis is the increased and terrible destructiveness of atomic weapons. Consequently, any action which tends to safeguard our productive facilities is wise and necessary. Industrial dispersion is one such move and we would be less than prudent if we did not give it serious consideration.

There have been those in this country who have recommended that all new industrial production be placed in the center portions of the country behind the mountains. Such extremists have contended that the coastal and border areas of the country for perhaps 150 to 200 miles inland are more vulnerable than the central portions. They have proposed the relocation of industry from the industrialized portions of the country, when such industrialized portions are on or near seacoast or borders, to remote parts of the country. Such propositions are completely impracticable and would be harmful.

On the other hand, there are persons whose heads are buried in the sands, who will not believe that now or at any time in the future this



country is in any danger of an attack. Indeed such persons are not interested in any kind of dispersion.

And so the situation was in this country with the matter a subject of debate, but with no formulated policy. This situation continued between the years since the end of the last war and up to August 10th of 1951. It is true, of course, that Congress had in the National Security Act of 1947 charged the National Security Resources Board with advising as to the: "Strategic relocation of industries, services, government, and economic activities, the continuous operation of which is essential to the Nation's security."

It is also true that in 1948 the National Security Resources Board issued a pamphlet entitled "National Security Factors in Industrial Location" and that pamphlet did indicate the desirability of putting space between industrial establishments for the purpose of security. But still no definite and acceptable policy had been formulated or placed in effect.

Mr. Jack Gorrie, the Chairman of the National Security Resources Board, then Executive Assistant to the Chairman, asked me, together with others, to give some thought to this program. We felt that any industrial city in the United States would be willing and able to work out a program for industrial dispersion if given the opportunity. We agreed upon the principle of dispersion within the respective marketing areas and decided to see if a typical industrial city could work out acceptable details for such a program.

Mr. Gorrie spearheaded the work on this program and without his leadership the development of the program would have been impossible.

Perhaps it would be well to tell you how the "pilot operation" of this program was conceived and developed in the Pacific Northwest. With approval of the Seattle Chamber of Commerce and the city and county governments, we set up a task force of industrialists, labor people, and representative citizens. Our job was to work out an industrial dispersion program that would be acceptable to Seattle. If acceptable to Seattle, we felt, it should be acceptable in general to all other industrial communities in the United States. The problems of all are very similar.

It was realized that one of the great sources of strength of this Nation is its present industrial establishment and that anything which tends to disrupt or dislocate that present industrial establishment will be harmful. It was recognized that a vast proportion of our present industrial establishment and hence our present strength is located reasonably close to the seacoasts or to the borders of the country. It was also recognized that no region in the United States should be built up by Government decree at the expense of any other region. It was also recognized that the relocation of industry from one part of the country to another was not the solution, nor would it be acceptable. It was

recognized that industrial areas would be willing, in fact would be glad, to expand geographically within their own marketing areas, but would rightfully oppose any loss of industry from their areas. Lastly, it was recognized that this must be a long-time and long-range program and that it should be conducted locally by each industrial center rather than from Washington, D. C.

Out of these simple common sense principles came a simple program which can be summarized from the statement in the brochure recommended by the citizen's committee and subsequently adopted by the Government.

- (1) It is designed to disperse new and expanding industry—not to move established industry.
- (2) No region of the country is to be built up at the expense of another.
- (3) Industrial dispersion can be carried out if such deployment is confined to each local marketing area.
- (4) State and Local governments, in cooperation with private enterprise, are called upon to take the initiative in this defense objective. The Federal Government will provide encouragement and technical guidance.

Briefly, let me give you what these principles and what this program mean in relation to our industrial centers. In the first place PRODUCTION is the primary consideration. For that reason, no program should tamper with presently established and producing industries. That is the reason this program of dispersion has nothing whatsoever to do with such established and existing industry. But in the course of every few years many companies have occasion to build expanded plants or additions to established plants. Such new plants or expansions to old plants are a natural subject for consideration as to dispersion.

Why should no regions of the country be built up at the expense of another region? That is the second part of the program. Because none of us wants the Federal Government to have the power to discriminate against any region in the country in favor of any other region. None of us has any objection, or at least should not have any objection, to the underdeveloped sections of the country competing in the good old American way for industries for their sections of the country. What we do not want is the Federal Government to move industries from one section of the country to another, or exert any such pressures. Such moves would do nothing but harm and would stir up intersectional strife and bad feeling.

The real meat of this program is in the third plank. That is, that industrial dispersion can be carried out if such deployment is confined to each local marketing area. Every city in the United States, with few exceptions, has a hinterland adjacent and surrounding the city itself. That hinterland is a tributary geographical area the prosperity of which and the development of which in turn contributes to the prosperity of the city itself. In that hinterland or tributary area of most cities are small satellite towns, facilities, utilities, labor, housing and transporta-



tion. It is to such tributary areas or marketing areas that effective industrial dispersion can be had.

The final plank in the program is no less important. There is no need of a Bureau in Washington or elsewhere in the Federal Government to do this job. Industrial dispersion can be handled at the local level, just as plans for industrial dispersion were handled on the local level by citizens of Seattle. Local dispersion committees knowing local conditions can best handle the dispersion of new and expanding industry. In the short time this program has been in effect it has been endorsed and adopted by more than forty of our major industrial centers.

All industrial cities have been invited to set up dispersion committees. These committees can easily work out their own dispersion programs including sites within their own local marketing areas which will fulfill any reasonable requirement. The recommendations of these committees will be one of the major and controlling factors in any incentives such as certificates of necessity, allocation of critical materials for construction purposes, defense loans and defense contracts to be granted by the Federal Government.

I would like to mention the fact also that there are some industries that require their operations to be integrated, or for good reason require a location close to an allied or supplying industry. Since dispersion is only one factor to be considered in the locating of new and expanding plants, the other factors of integrated control, management, supervision, labor, transportation, utilities, or other economic factors, may outweigh the desirability of dispersion. In such cases we must take calculated risks.

On the other hand there are many companies that find decentralization both efficient and profitable. Many companies find the modern one-story stream-lined production plants more efficient. Many companies find it costs less to operate in less congested areas. Certainly, it is safer.

Industrial dispersion means locating facilities several miles apart. Space is one means of security. This creates many small targets—not just one big target. This will increase the odds for continued productive operation of essential facilities in the face of the most devastating atomic attack. Therefore, industrial dispersion, in itself, is a defense measure in that any action which decreases vulnerability of targets increases security. The program outlines sound techniques for determining target areas.

Industrial dispersion is more than a defense measure. It is also an investment in the future welfare and progress of the Nation. It offers the added advantage of long-term economic and social benefits beyond its defense security contributions. Included in these benefits are: better working and living conditions for our industrial workers. Greater production efficiency through reduction of urban congestion. And a healthier, more stable national economy, an essential to continued growth of private enterprise.

These are some of the high spots of this extremely moderate dispersion of industry program. It is a program that is fair to all parts of the country. It is fair to the industrialized East, and all other parts of the country that are highly industrialized. It permits such centers to disperse within their own marketing areas and to, in fact, lose nothing but rather to gain in the process.

It is fair to the underindustrialized sections of our Nation as it takes nothing from them that they have any right to expect. It leaves to them the full right to compete without interference for any new industries which they can attract to their areas. And I am sure such competition will continue.

The dispersion program will not secure immediate dispersion. Nothing will be accomplished in a moment. But it will place before the Nation the importance of dispersion. It will place it before management of companies as a factor to be considered when new and expanding plant sites are necessary. When the program is placed into effect by the 50-odd industrial cities in the United States, the results in individual cities of the total effect of such a program as this will be cumulative and continuous. The fact that dispersion will take many years to accomplish is just another reason why it should be initiated without further delay.

It is a program that is necessary for the safety of our Nation. The strength of our national defense and in fact of our continued existence as a free nation depends largely upon our industrial capacity. It is a matter for national concern that our industrial establishment be as safe as we can make it.



## Water in Relation to Industrial Location

WALTER S. SCHMIDT, Chairman, Industrial Council,  
The Urban Land Institute, Cincinnati, Ohio

**G**REAT cities are almost invariably located on water—the largest on seaboards or on great navigable streams or lakes. Those located on seaboards require fresh water rivers, lakes, or underground water—aquifers, as they are called—for drinking and sanitary purposes. As this Nation has converted itself during this past fifty years from an agricultural to an industrial economy, another great need has developed for fresh water, namely, its use for cooling and processing in industry. The availability of water for industry thus has become a basic element in judging the economic resources of an industrial community. In discussing, then, industrial location, water is an item of primary concern—its adequacy in amount, its quality and the permanence of the supply.

In the whole Eastern and Midwestern sections of our country there are many lakes, streams, and rivers capable of yielding large supplies of water for industry. There is also underground water in goodly amount in all of our States east of Kansas and Nebraska. A wide belt of such water underlies the coastal plains along the Atlantic seaboard, and around the Gulf to Texas. Some interior areas between Nebraska and the Atlantic are deficient in that supply, among them portions of Pennsylvania, Virginia, and West Virginia, Kentucky, the Carolinas, the Northern part of Georgia, Eastern Kansas, and the Dakotas. The Western section of our country from Colorado to the coast is quite generally deficient in its amounts of underground water. Northern California, Oregon, and Washington have a better condition in this regard.

Of the water used by industry, approximately one-fourth is used for cooling, a little over one-fourth for processing, one-fourth for sanitary and service needs, and something less than one-fourth for other general purposes. Ground water is most valuable for certain cooling processes because in the usual case, its temperature, especially in the summer months, is much lower than that of surface water. Despite mineral content, it is usually also purer than surface water, since it has no toxic solids or organic matter in solution. Today, industry is taking out of the ground two and one-half times as much water as it did fifteen years ago.

A few statistics on use of water in industry might be interesting. Surveys of the U. S. Geological Service indicate that approximately 65,000 gallons of water are required to make a ton of steel; 800 gallons of water for a barrel of refined oil; 15,000 gallons for a gallon of synthetic gasoline, and for the generating of electricity, 5,000 gallons for 1,000 kilowatt hours. A large steel mill or a metropolitan steam generating plant for electricity, either of them may use as much water as the City Water-works of its community produces. The above figures indicate that adequate supplies for cooling purposes are needed by many in-

dustries. In addition to these uses there is, of course, the large consumption of water for cooling machinery in plants, and also for air-conditioning, which as it grows in popularity, is beginning to require great amounts of cool water.

In processing also, many industries require large volumes. Rayon, for instance, requires 200,000 gallons of water per ton of product; woolen cloth, 500 gallons per yard; rayon yarn, 500,000 gallons per ton; beer 300 gallons per barrel; and whiskey, 70 gallons of water for every gallon of whiskey produced. There are other needs for great amounts of water in industry, for example, in paper making, and in various washing and cleaning processes, such as, ore cleaning, sand and gravel washing, etc.

Again, water is required for carrying away wastes, and for sanitary purposes. Although much of the water used in industry is returned for reuse, the surface streams are frequently polluted by these returns. It is estimated that excluding silt, approximately fifty percent of the other pollution in our streams is caused by industry.

It is quite evident that any large industrial city or area must have adequate supplies of water. Surface water is not always useable because of the organic and mineral matter carried in solution. A large plant using millions of gallons a day, can perhaps afford to put in its own sediment and treatment pools. This however, is expensive and not economically feasible for the plant of smaller size.

As a result of the superiority of ground water for many cooling purposes, much more water is being withdrawn from the ground in many sections than the replenishing processes put back. The result of this over-development of wells has been that water tables in many sections have been severely lowered.

All natural waters have dissolved minerals in them. There is a trace of mineral matter, though only the slightest, in the natural water considered the purest, coming, I believe, from Poland Springs, in Maine. The amount and kind of organic and mineral matter in a water supply determine its desirability for different industries. Some industries require the presence of certain chemicals, others their absence. So the utility of water for specific purposes is determined by its chemical analysis—an analysis that, to give accurate data on surface water, must be made by many samplings made at different seasons and extending over a period of years.

Minerals dissolved in water cover a wide range. There are, for instance, acids in drainage from coal mines, which destroy natural alkalinity and make the water corrosive. Calcium, dissolved from practically all rocks, particularly limestone, dolomite and gypsum, combines with magnesium, silica and sulfate to create hard scales in the interiors of boilers. Is it significant that some of these chemicals coming from the same rock formations, are considered very valuable in the making of whiskey, particularly Kentucky bourbon. Manganese is objectionable



in textile processing. Sodium and potassium, if present in too large quantities, cause water to foam. Iron is in much of our water. A little does no harm, but if the amount is excessive, it will be damaging to various manufactured products, as for instance, to porcelain and enameled ware, and to fabrics washed in it, since stains develop. Some chloride, coming usually from dolomite, is present in most water, and is useful in small quantities. But if there is too much of it, as in brines, and especially in conjunction with magnesium, the water is corrosive.

Waters that have dissolved solids in them of 500 parts per million are usually satisfactory for industry, and over 1,000 parts, generally unsatisfactory. The concentration of various chemicals or minerals changes through the seasons. For instance, salts are more largely present in streams in dry spells, as they are generally carried in springs, and the water from springs forms a larger portion of flow in periods of drought.

Hardness is usually caused by calcium carbonate. Laundries may have to soften water that has over 75 parts per million. Acidity is caused by mineral acids, carbon dioxide, and sulfates. The symbol p.H. (hydrogen-ion concentration) is used to indicate the intensity of alkalinity or acidity. A count of seven is considered neutral—the usual natural water. Above that count means excessive alkalinity, below it, an acid condition.

The temperature of water has its bearing on desirability, especially where cooling is a major element. The Mahoning River in Ohio is an example. When the flow is small, this water, which is used successively by some ten different steel mills, reaches a temperature noted as high as 150 degrees. The result, under such conditions, is a serious reduction in production.

The quality of water then is a matter of great importance. Those industries using goodly quantities of it seldom can afford the expense of the treated water supplied by city plants. Down through a long list, industries require the chemicals found in natural water, as in the manufacture of rubber, rayon, textiles, paper, etc. For this reason, outside the matter of expense, water treated by cities to make it potable, is not always the best for industry.

Pollution is becoming a most serious problem. The sources of pollution are complex—sewage, mine drainage, chemicals from rocks, industrial wastes, decaying vegetable and organic matter, etc. We are just beginning to realize the enormity of our act, in permitting the befouling of our streams. The increasing use of water by industry, fortunately has centered attention on the subject, and it is to be hoped that our program for purification will be accelerated.

Until recent years, industries establishing plants in new locations were quite casual in their examination into the water resources of the site. If the situation was satisfactory at the moment, it was taken for granted that it would continue so. But today, manufacturers recognize

that they must have assurance of the permanence of supply, in the amount and of the quality needed. For the use of water by industry has grown to such proportions, that care must be exercised, lest the capacity of the source of supply to produce is over-taxed.

It is estimated that during this year, 1952, industry will use water at the rate of 83 billion gallons a day. The magnitude of this consumption is made clear, when it is realized that all the municipal water-works in the country produce only about 15 billion gallons a day. Another comparison is this, that industry uses in a day as much water as all the people in our nation will use in two years time for drinking and personal purposes.

The size of this industrial withdrawal is beginning to create serious problems. The flow of many streams at certain periods is proving insufficient to serve all the industries located on them. Reservoir projects in upper reaches of rivers have improved the situation in quite a number of cases. The ultimate remedy probably lies in the adoption of a number of measures, such as, reservoir construction, and the employment of various means to prevent too rapid run-off, among them reforestation and types of planting to keep more water in the ground, and to prevent soil erosion.

Another problem that has proved most troublesome, is that caused by industries washing toxic or organic wastes into a stream, destroying the quality of the water for users below it. Less than 5% of our plants with wastes of this character, adequately treat them. We must start a long-range program for the treatment of wastes, so that the quality of the effluent returned to streams, is not unduly impaired. The States of the Ohio River Basin recently signed a "Treaty" seeking the objective of stopping this, and other types of pollution.

There is next a series of difficult situations arising from the increasing use of ground water—that is fresh water to be secured in volume by driving wells to some reasonable depth. Such wells should produce fifty gallons a minute or more, before the supply is to be dignified by the appellation "ground water" in the sense here used. Occasionally this water lies in caverns in faulted rock strata; sometimes in a contained underground reservoir—in the northern section of the country, perhaps a former lake covered with a hundred feet or so of glacial drift; but more generally, the "aquifers" as they are called, are moving underground streams, where the water, as it seeks lower levels, flows slowly through permeable material, such as gravel, sand or glacial drift. The supply sometimes comes from the surface by percolation of rain water, more often by infiltration from streams or lakes. Some aquifers replenish themselves rapidly, others more slowly.

In many areas, water is being withdrawn from these aquifers in volumes greater than the replenishment. The result is a gradual lowering of the water table, often to such an extent that the supply is jeopardized,



as happened in Louisville when a number of new industries established during the last war began making heavy withdrawals. In Long Beach, California, the water table now is 75 feet below sea level. In other instances, as on Long Island, in Miami, Florida, in Mobile, Alabama, and in other locations, the lowering of the water table below sea level resulted in salt water infiltrations. In other instances, infiltrations of polluted water from streams, have frequently occurred with the lowering of the water table.

These difficulties must be met and overcome. The first means is through the reuse of water, so that lesser amounts are withdrawn. In the Kaiser Steel Mills, for example, where there were water stringencies, only 1,300 gallons of water are used per ton of finished steel, as against the 65,000 gallons in the Ohio-Pittsburgh region. Ground water used, but not impaired in quality, could be put back into the aquifer by means of wells. This system is used on Long Island where surface water drainage is so returned. Another method that would be effective for replenishment is the frequent damming of small streams, so as to build a series of ponds, each creating new points of infiltration.

Quite obviously, we must conserve our ground water supply. Perhaps the pumping of it must be regulated, and rules laid down for its replenishment. Regional Water Authorities for metropolitan manufacturing districts, might be a forward looking step.

Ours has become very definitely an industrial Nation. Further industrial advance is necessary for the continued well-being of our people. Industry will require more and more uncontaminated water for successful functioning. It has been the effort in this brief, non-technical presentation, to stress that need, and to point some of the problems that require attention. This country of ours is endowed most generously with many superior natural resources, not the least of which is an abundance of good water. Let us conserve our water resource and in due season take those steps necessary to that end.

## Economics of Urban and Suburban Shopping Centers

HOWARD T. FISHER, Architect and Planner, Chicago, Ill.

EDITOR'S NOTE.—Mr. Fisher spoke without notes, saying substantially what he had earlier presented at a planning symposium on Regional Shopping Centers sponsored by the Chicago Region Chapter of the American Institute of Planning. This is here reprinted with permission.

**T**O a major degree, the immediate and especially the long-term, financial success of any shopping center project will depend upon its layout and design.

I have been asked today to sum up and present in the form of a brief resume the very essence of the shopping center problem from a design viewpoint.

The problem of where to locate a shopping center naturally comes first. This constitutes a very large subject, already touched upon this evening, but I would like to mention three points in this connection:

*My first point* is the extreme importance of there being adequate excess highway capacity in the arteries which serve the site.

It is necessary to remember that, although a shopping center can profit from through traffic passing the site, the center itself will generate a great deal of additional traffic. No matter how numerous, broad, and heavily traveled they may be, the highways which provide access to the center must be capable of taking this extra traffic load—which must be added on top of all the other traffic such arteries may currently or in the future be called upon to handle. So do not be satisfied with mere concrete and asphalt or impressive traffic counts. Investigate excess capacity.

*My second point* is in regard to topography.

Only a few years ago it was generally thought that to have a good site for a shopping center it must be level. Mr. Rubloff, as you have seen, made what was thought to be the serious error of acquiring one of those sloping sites against which such strong recommendations were made—but the slope is now felt to be one of the greatest assets which the property possesses.

Times have changed, and developers with level sites are now sometimes hiring bulldozers to make them unlevel, in order thus to gain the advantages that an unlevel site may make possible. So do not turn down a sloping site on that account without careful investigation.

*My third point* is to beware of a site selected merely because the developer may already own it.

This is the poorest reason in the world for building a shopping center upon a particular piece of land. A shopping center involves a large and permanent investment, and its location is of the most fundamental importance. It is far better for a sponsor to sell and start fresh, by buying the best available location. In short, site selection should be strictly on a basis of merit.

Now, having our site, let us consider the design of the center itself.

**FIRST**—let us recognize, and keep constantly in mind, that a good shopping center is and must be a highly complex organism. To achieve its greatest success, it must be much more than a good group of stores next to a nice parking lot. *One and one must equal three*, or more; it is not enough to be satisfied with a total of only *two*.

Intensive study is needed for even a small center and, in arriving at a specific solution, there are great opportunities for imaginative planning which should be grasped.



There is going to be competition ahead for many centers, and the finest possible design that can be conceived today will be none too good when judged by the best the future will bring forth. As we look about us today, and see the various centers which have been built around the country over the last few years, it is clear that many of them could not compete with any great success if a more modern center, such as is being discussed here tonight, were to be built nearby. It must be recognized equally that some of the centers that are even now being built, without the benefit of careful study and an imaginative eye for the future, will begin to suffer from obsolescence far sooner than should be the case.

It is impossible, of course, to look into the future and know just what it will hold, but all of us who may be charged with the responsibility for the planning of shopping centers must make every effort in our design work to imagine the best that competition is likely to bring forth over the next twenty or more years, and then incorporate as much of that thinking as will stand critical appraisal at this time.

The difference between an initial success and a long term super-success may entirely depend upon the imagination brought to bear upon the design of the center. If we try to peer far into the future we may miss; but, if we do not try to do so, we will surely miss. There is one thing of which we can be absolutely positive, a center designed merely to meet today's market requirements will be obsolete within a few years. Remember, this is a fast developing field, and vision will be richly rewarded.

SECOND—It will be well to realize that from the design viewpoint the problem to be faced is essentially one of over-all site organization. It is not a site planning problem in the usual sense, nor is it an architectural problem, but a problem that requires the fullest blending of the two. To express this differently, the designer must not think of the assignment as primarily for the design of a group of fine stores upon a well located piece of property. Equally he must not think of the assignment as primarily for a fine site layout upon which typical stores can be placed.

This essential blending illustrates the point I have already made as to shopping centers being complex organisms, but I wish to stress particularly the necessity for the closest integration in the design of land and structures. The complete organization of the site must be studied at one time and as one single problem.

A three-dimensional approach to site organization will usually prove worthwhile, at least in the case of all but the smallest projects. And, as I have already indicated, this may be true even when the site is level. So remember, the site as well as the buildings should be recognized as presenting a three-dimensional problem. By this I do not, of course, mean to imply that every solution should be a multi-level solution.

**THIRD**—What are the fundamentals of good site organization?

To answer this, let us analyze quickly the basic objectives and functions of a shopping center. In the opinion of our organization, the one most fundamental fact—yet a fact that many sponsors of shopping centers lose sight of—is that it must be a good market place. All else follows from that simple statement. If it is not a good market place it fails in its basic purpose. A superb site, beautifully landscaped, with well constructed buildings of fine architectural appearance, will not meet the demands of a modern shopping center unless the combined total constitutes a good market place.

Now, for any given variety of goods to be offered, what are the fundamentals of “a good market place”? To answer this, let us list the principal functions which a good market place must fulfill.

(a) Basically, from a physical viewpoint, you must first bring in the goods which are to be offered for sale. This means efficient handling of the incoming freight.

(b) Next, you must also bring in the personnel to operate the center. This presents no great problem, but you must insist upon employees' parking their cars only where specified. With a little thought it may even be possible to make a plus feature out of this type of parking. In brief, employee cars can be decoys indicating that the center is open for business, and helping to lure in shoppers at those times of day when the center might otherwise appear dead and inactive.

(c) Next, and obviously, you must have the customers—the more the better. But remember, for most centers, at least a portion of the customers will come by bus or on foot, rather than by private automobile. This rather elementary fact has been lost sight of, or at least given inadequate attention, in various centers so far built. Such customers should not be expected to compete with automobiles for right of way, or to wade across acres of asphalt with only their pioneering spirit to sustain them.

(d) Last, you must get the goods out again after being sold. This most important of functions has received only a fraction of the study it deserves.

Clearly this should be accomplished in a manner that is pleasant and convenient from the customer's viewpoint if (1) the high cost of home deliveries is to be reduced and (2) customers are to be encouraged to make additional purchases through being relieved of their bundles. Efficient well-planned package pickup stations will, in most cases, be the answer.

Until very recently most merchants thought of this as a minor problem of no particular significance, but today it is being increasingly recognized as of fundamental importance to the over-all success of the project. Our organization has been studying this problem very carefully and we believe that the future will see far-reaching improvements in techniques for the efficient transfer of goods from the possession of the merchant to that of the buyer.

“Auto-shopping,” whereby the customer goes directly in her car to the combined point of sale and delivery, will almost certainly play an increasing role in connection with this.

So, to sum up, when we speak of a good shopping center we mean a good market place, and by a good market place we mean a good “machine for merchandising.”



FOURTH—Now what marks the difference between a good market place and an outstanding market place?

I will list the points that we think are most fundamental; and, in terms of the designs you have seen this evening, probably all of the best features flow from these points. If you should examine large numbers of shopping centers all over the country, as we have had the privilege of doing over the last few years, I think you would agree that these appear to be the most fundamental points from which everything else naturally follows:

- (a) There should be no conflicting or extraneous elements to distract the attention of customers.
- (b) There should be a high degree of concentration of interest.
- (c) There should be an even distribution of pedestrian traffic.
- (d) There should be an adequate variety of merchandise and services, logically grouped.
- (e) There should be an inviting festive atmosphere.

Let us consider each of these very important points in more detail:

(a) *No conflicting elements.*

Most fundamentally, this means that you must keep all traffic out of the merchandising center of the project. This seems to us to be obvious (for all but very small centers), but some of the biggest shopping centers built to date have deliberately routed traffic right into the very core of the project—and some have been built straddling the highways with the result that through traffic passes directly through the heart of the project.

In a designed shopping center, the customer on foot should for once feel supreme and, so far as practicable, should be relieved of the sight, sound and smell of automobiles.

I may refer to a theatre as another example of a conflicting element which should usually be avoided. In most cases it will not be helpful to include a theatre in a shopping center, since it will take up much space, require a great deal of slow turn-over parking, and will not contribute sufficiently to the objective of a good market place. If a theatre is to be included it will usually be desirable to locate it out of the main shopping area and with plenty of parking so arranged as not to limit convenient parking for customers.

(b) *Concentration of interest.*

It is desirable to have a close, compact, intimate shopping area. Store frontages should be concentrated within a minimum over-all length—actually and psychologically. There should be an absolute minimum of blank frontages exposed toward shoppers, and a minimum of interruptions in frontages.

Double-sided pedestrian ways will be found very desirable and should be possible in all but the smallest centers. Where necessary, small specialty shops can be employed to add life and interest and avoid an otherwise one-sided effect.

(c) *Even pedestrian distribution.*

For maximum sales by all merchants, and the highest morale of the entire center, this is of the greatest importance. The desired result can only be attained by the strategic placing of the most important tenants. Tenants which are big drawing cards, like the department store, super-market and drug store, should be placed in such a way as to assure an even distribution of interest—an even pull.

Where an interior mall is employed, it is especially important to locate points of greatest magnetism at the ends, to assure a good distribution of pedestrian traffic throughout its entire length. Where a multi-level solution is employed, it will be especially vital to give the most careful study to this problem.

(d) *Adequate merchandise well grouped.*

For any given size and type of center, the range of merchandise and service should be as large as possible—and even the largest style goods centers should, in our opinion, still include all basic convenience goods stores and such facilities as shoe repair, cleaners, etc. The goal should at all times be one-stop service, making it possible for the customer so far as possible to do all her errands without the need for going elsewhere.

Different types of merchandise in different price classes should be so grouped as to permit a natural and continuous flow of interest and appeal, from store to store, without sudden jarring contrasts. Both design and construction should permit maximum flexibility and easy adjustment in the light of future experience, and to meet changing tenant conditions.

(e) *Inviting festive atmosphere.*

An attractive atmosphere can be one of the greatest appeals of the designed shopping center. A shopping center should be inviting from the street or highway, as well as inside. However, a little seduction is desirable, and it should neither all be visible to the sight of passers-by, nor all hidden.

It should be cheerful, it should be attractive, and it should be colorful—outside as well as in. Throughout all the seasons of the year, it should present a certain intangible but appealing atmosphere such as no typical business district, straddling automobile-laden streets, could possibly achieve.

Such appear to be the fundamentals. If more time were available, there would be a large number of additional matters that could advantageously be discussed in a session such as this.

For example, there is the interesting and important question as to doctors' offices and, if so, how many. A medical center helps draw customers, and dovetails with the goal of one-stop service. Yet, in view of the slow parking turn-over involved, serious questions arise.

As another example, there is the problem of how to provide for pos-



sible future expansion and still have an efficient, tight, organic design, both before and after enlargement. It is usually quite different to construct a project in installments, since a good shopping center must be built around a strong focal point or area—and there must be a certain minimum of stores for the center to exist at all. If that minimum is provided from the start it is difficult to expand on a sound basis—but there are ways of doing it.

## Howard T. Fisher on Lincoln Village

For years "the flight to the suburbs" has been a constantly accelerating trend. The drive-in shopping center has arrived, whether we like it or not—and most of us like it. The customer loves it, and the customer is always right. The merchants prosper, and the tax revenues roll in.

Such centers, when properly placed and properly designed, are valuable assets to any community. The just completed Lincoln Village Shopping Center in Chicago, unlike many new centers, is constructed within the city limits, and the tax revenue based upon it will therefore benefit Chicago's city government.

In the case of Lincoln Village, detailed traffic counts were made, giving particular consideration to the availability of excess highway capacity to handle the additional load of traffic which the center attracts.

Quoted from *American Business Magazine*, March, 1952

## Howard T. Fisher on Traffic and Shopping Centers

Millions of dollars worth of shopping center construction is now in the planning stage and shopping centers will certainly constitute one of the most important building types in this country during the years ahead. Two factors combine today to accelerate this trend. The first is, of course, our ever increasing traffic congestion which in turn results in the ever increasing inefficiency of our existing business districts. The second is the now well-proved public appeal and resulting financial success of those centers constructed in increasing numbers during recent years upon open or relatively open land outside of built-up areas.

Every new product goes through a formative period. The drive-in shopping center is essentially a machine for better merchandising, and it is now passing through the second phase of the usual process of experimentation, trial and error. For the success of future shopping centers, the traffic engineer should play an increasing role in the design process, and all others interested in the subject of traffic will undoubtedly watch with close interest. What the future will bring forth depends largely upon the imagination brought to bear upon every aspect of the problem. Only by this means can the ultimate potential for this type of project be achieved.

Quoted from *Traffic Quarterly*, October, 1951. Published by the Eno Foundation for Highway Traffic Control, Inc., Saugatuck, Conn.



## Toledo's Comprehensive Plan Revision

A. R. CLINE, Chairman, Toledo-Lucas Co. Planning Commissions, Toledo, Ohio

**M**Y SUBJECT is, "Toledo's Comprehensive Plan Revision". However, it is really broader than that, in that the comprehensive plan covers the Toledo urban area, and is under the direction of two commissions, the Toledo City Plan Commission and the Lucas County Planning Commission. In order to give you some idea as to how the revision of the Master Plan is carried out by the two Commissions, it is best to give you some history or background leading up to the present revision of the Master Plan.

The City of Toledo has had a Plan Commission since 1916, or thirty-six years. Lucas County has had a Plan Commission since 1924, or twenty-eight years.

By law, the City Plan Commission and the County Planning Commission are two separate bodies, and integration of their separate functions with the approval of the Toledo City Council and the Board of Lucas County Commissioners is a unique example of cooperation between city and county officials.

The City Plan Commission is composed of five non-paid citizens appointed by the Mayor of the City of Toledo.

The County Planning Commission comprises 11 members, including 3 members of the City Plan Commission, the 3 Lucas County Commissioners, and 5 non-paid citizens appointed by the County Commissioners from among the residents of the county.

To coordinate plans for the City's orderly growth, Harland Bartholomew and Associates, city planning consultants, were retained about 1922 by the City Plan Commission to assist in framing a zoning ordinance for Toledo, and studies on various phases of the Master Plan. The transportation report, major street report, industrial survey, port study, railroad and the transit plan, all published about 1924, and the recreation report in 1925, were officially adopted and formed the first Master Plan of Toledo. Included in this Master Plan were subdivision regulations established in 1921, and the Zoning Ordinance adopted in 1923.

Harland Bartholomew and Associates were also engaged by the Lucas County Planning Commission, when it was organized in 1924, to develop a Master Plan of Major Highways and Parkways. This report was published in 1928.

Much has been accomplished in accordance with the Master Plans of these two Commissions. 4000 acres of new subdivisions have been coordinated with the comprehensive plans, the majority in the county, outside of the city. Some 16 miles of new or widened major streets have been secured without public expense, as one of the benefits of this activity. Even though a long economic depression and World War II

seriously interfered with civic development during the past 25 years, major physical improvements in the Toledo area have been made, including the Civic Center, the new Union Station costing about \$5,000,000.00, the Art Museum, the new Toledo University, the Miami and Erie Canal converted into a modified expressway known as the Anthony Wayne Trail, and the Anthony Wayne High Level Bridge over the Maumee River. As an example of industrial and railroad improvements, I will point to only one matter, and that is, from the Port Study made by Harland Bartholomew and Associates. The consultants proposed that the new harbor and loading and unloading facilities for coal and iron ore be placed at the mouth or a little east of the mouth of the Maumee River on the south shore of Maumee Bay. At the time of the Port Study there were three loading docks within the city limits along the Maumee River, and this necessitated opening and closing many roadway and railroad bridges for the boats to come in from the lake to the loading docks. Also, these loading docks were on the southeast shore of the Maumee River and the prevailing southwest winds carried much of the dirt and grime from these docks, while in operation, over both the business and residential areas of the city. At the time the consultants made this proposal of placing new harbor facilities on the south shore of Maumee Bay and lying east of the city, the proposed site was a swamp and cattails were waving in the breezes. Since that time, there have been two large coal and ore dock facilities erected, costing about \$40,000,000.00, and today the Toledo port is the greatest coal-shipping center in the world as a result of that planning in 1924-25.

Briefly, without enumerating, there were 448 major improvements which have resulted from the 1923-28 Master Plans.

You will note from what I have said, that each of these Plan Commissions developed and fostered its own Master Plan, one for the city and one for the county, and that continued to be the case until about eight years ago.

When the depression came in the early 30s and public money became scarce, the funds available for both Planning Commissions were materially curtailed, and finally the two Commissions were thrown together under one director and one secretary as an economy measure. During the depression not much was done in the way of planning except routine matters. The two Commissions continued to meet separately, until about ten years ago, at which time it was decided that there should be a revision and studies made of the Master Plans adopted in the 20's. As these two Plan Commissions began to consider the revision of the Master Plans, it was readily seen that the streets, the sewers, the subdivisions, the residential areas, the commercial areas, the industrial areas, the port development, the parks, all of the things that go to make up the urban area, did not stop or terminate at the city



boundary of Toledo and Lucas County. It was then thought that it would be well to carry on the activities of the two Commissions under a combined staff under one director and in one office, and that the operating funds should be provided equally by both the City of Toledo and Lucas County. Accordingly, arrangements were made between the City and the County that each contribute one-half toward carrying on the functions of the two Commissions operating and voluntarily working together, and some additional staff was hired to get data and information together for the revision of the old Master Plans as one plan instead of two plans for the Toledo Urban Area.

How do these two Commissions work together? The two Commissions, since 1942, have elected the same chairman, the same vice-chairman and the same director. The salaries of all of the staff are paid one-half from the city and one-half from the county. Other expenses are worked out so that approximately one-half of the expense is borne by the city and one-half by the county, and in this way the whole operation is kept more or less on a fifty-fifty basis. The Commissions meet jointly on matters affecting the Toledo Urban Area. As I stated before, they are two separate commissions established by law. Matters are presented by the staff and considered in joint sessions by both Commissions pro and con. Anyone has the right to speak, whether he be a member of the City or the County Commission, and after the matter is thoroughly discussed and ready for a vote, the resolution is generally presented first to the County Planning Commission and a vote taken, and then the same resolution is presented to the City Plan Commission and a vote taken. In that way both Commissions act upon the same resolution and it takes very little extra time in doing it. Furthermore, we find that the City and County can coordinate and help carry out their ideas much better by the two groups meeting and acting together. Too, duplication of offices, data, staff, etc. are avoided. When all the matters affecting the Toledo Urban Area and in the county are disposed of, many times we then have the County Plan Commission adjourn, and the City Plan Commission will proceed with zoning matters or other matters that affect the City only and are of no concern to the County Plan Commission.

Now, as I stated before, the staff was enlarged and was to bring about a revision of the old Master Plans into one Revised Comprehensive Plan, designed to guide the growth of the urban area for the next 30 years or until about 1980. Much data were gathered on this from about 1944 to 1950, but because of the many routine matters coming up continually before the staff for attention, we failed to pull the various elements and data together so as to bring out a revised Master Plan. Accordingly, about a year ago the Commissions decided that it would be well to bring Harland Bartholomew and Associates back into the picture as consultants for the purpose of bringing together and co-

ordinating the data that had been gathered together for the revision of the Master Plan.

We divided the Revision work into two phases. The material and data that had been developed and brought together by the staff on some elements and was more nearly ready for putting together in the form of a revised plan was designated as Phase One. The surveys and plans included in Phase One are those considered most basic and urgent:

1. Population growth and distribution.
2. Land use and zoning.
3. Major streets.
4. Parking in the central business district.
5. Airports.
6. Schools and parks.
7. Residential neighborhoods.

Phase One of the Master Plan was completed by Harland Bartholomew and Associates and officially adopted by both Commissions.

Phase Two, of no less importance, is essential to the successful completion of the Master Plan. On this, data had not been gathered together by the staff, as for Phase One, and about three or four months ago Harland Bartholomew and Associates were retained to bring together the major surveys and resulting plans which should comprise Phase Two of the Master Plan. Phase Two includes:

1. Port development.
2. Railroads.
3. Transit.
4. Public buildings and city's appearance.
5. Sanitary sewers and drainage.
6. Capital expenditure program.

The Transit Report has been completed and good progress is being made by the consultants on the other elements of Phase Two. We have found the retention of experienced and qualified consultants beneficial and advantageous in at least three respects, namely:

1. The consultant is not interrupted by routine matters as a staff is and can concentrate on getting the Master Plan done and concluded.
2. The consultant has the know-how in making a Master Plan.
3. The broad experience of the consultant in planning problems in other communities helps to make a better Master Plan.

What I wish to stress under the revision of the Toledo Urban Area is that this embraces all of the City of Toledo and Lucas County and part of Wood County. The two Commissions have no jurisdiction in Wood County whatsoever, but the Toledo Urban Area comprises part of Wood County and therefore is included.

From the foregoing, it will be seen that the City boundary is purely an arbitrary line when it comes to separating the functions of the City from those of the County.



For example, as I stated before, the street pattern in the city extends into the county; neighborhoods develop and cross over the city line; schools and parks serve both city and county residents. The comparison could be carried on indefinitely and serves to point out the importance of planning on a regional or over-all basis.

The foresightedness of the Toledo City Council and Lucas County Commissioners in coordinating planning operations of both plan commissions as one unit makes orderly development possible of both Toledo and Lucas County under one Revised Comprehensive Plan.

## Time and the Detroit Region

T. LEDYARD BLAKEMAN, Executive Director,  
Detroit Metropolitan Area Regional Planning Commission, Detroit, Mich.

**I**N THE Detroit Region the calendar seems hardly adequate to our needs. The tempo of development must be measured in hours, or perhaps minutes. There is a constant feeling of urgency as major new plants spring up almost overnight like mushrooms on the fringes of the Region. Late in 1951 we mapped all existing industries employing more than twenty-five people. Six months later we had to add 25 new plants, in construction or planned. With expansions to 35-40 existing plants, these new manufacturing establishments will add 47,000 to 57,000 more industrial workers, most of them beyond the urban service area and some of them out in completely rural areas.

It is frustrating and infuriating to watch the future structure of the Region being formed without rhyme or reason while you struggle to get even a sketch plan that will hold water from any sensible point of view. We almost feel that we are building a gate to close when the horse got out six months ago. I suppose we should have foreseen something of the sort when the Korean situation got serious. If we had, though, I don't know what we could have done by 1950 when these decisions were probably being made. Perhaps we missed the boat by not establishing a broader liaison with industry, but that takes time. They don't confide in an agency unless they have a lot of confidence and respect for it. We have always had representatives of manufacturing on our Commission and early in 1950 we set up an Industrial Land Use Committee, including the head of the General Motors real estate agency. Still, we did not establish contact with enough "top brass" apparently. In addition, several of the big new plants were located by the military, who apparently have not heard or don't believe the old adage that haste makes waste, or maybe they don't give a darn about waste.

Anyway, the calendar or clock has certainly caught up with us in the Detroit Region. In fact, it seems to be getting ahead of us. Paul Reid,

our Planning Analyst, says that since the census was taken in April 1950, we have gained 62,250 new dwelling units, and about 162,000 people. This is about 6,700 a month as against 5,500 a month between 1940 and 1950. Added to this the rate of family gain is probably even greater than the rate of population gain. From 1940 to 1950 the families gained 34.6 percent against a population gain of 29.6 percent.

Events have forced us to alter in considerable degree our procedures. When we started operations in the spring of 1948 it was our intention to sacrifice speed whenever necessary to insure integration of the operation with local government and private development in the area. We felt, and still feel, that the loss of a year or even two years at normal development rates would be justified if by so doing we could appreciably increase acceptance and application of the plan. We operated on this basis during 1948, '49, '50 and '51. We took our time getting the feel of the job. We added staff slowly and depended almost entirely on advisory committees for physical information and specialized knowledge. We emphasized local participation in the fact gathering and study. We encouraged the committees to develop their own programs of study and to fully and freely explore problems which did not have immediate application to regional planning per se. We consider it one of our functions to offer a meeting place or point of contact on common problems.

We still believe that this is the fastest way to produce the maximum benefit from state or regional planning. Not only would we probably be out of existence now if we had done an Ivory Tower job in '48, '49 and '50, but also we would not command the confidence and support we now can draw on to bring a speeded-up plan to bear on our runaway development.

It would be silly to pretend that we have gotten our message across to all or even a majority of the three million people in the Region. We do believe, however, that there is almost no public official in the 129 local governments we serve who doesn't have a pretty good idea of what we are doing, and why. In addition, the leading men in real estate, particularly the Society of Industrial Realtors, in building, in retail trade, and in industry, are working with us. We probably have enemies and certainly as we get further into the planning and programming stages we will have more. Right now, however, we feel that the leaders throughout the Region in every field are for us—perhaps passively in some cases, but at least they are receptive.

The story of how this has been accomplished is interesting we believe, but has been told so often that we hesitate to present it again. More to suggest than to inform, let me sketch in quickly the technique we have used. To begin with, we have a 46-man commission; half from local government on a geographical basis, and half representing social and economic interests such as labor, management, churches, negroes, pro-



fessions, etc. When we begin a major element of the work, we immediately set up an advisory committee which helps us to formulate a program of study, gets us the facts and provides us the specialized knowledge with which to study and apply the facts. There are about two hundred people on these committees.

We get constant local contact through our development area councils. To date about six of these councils have been organized, representing almost all the urbanized area contiguous to the City of Detroit. Each council represents from six to twelve neighboring communities subject to the same development stimulæ and in general comprising a logical local planning area. These councils usually meet once a month to discuss common problems and to review our material. In this way, we are able to keep in contact with local governments with minimum use of staff time. Also, the communities almost automatically begin to integrate their thinking at the local level. A week ago today we had our Local Planning and Zoning Clinic. It was very heartening to hear both the speakers and the audience express their conviction that joint thinking and action among the communities of the region is essential to sound development in any one political unit. If we had written the speeches ourselves they could not have been more in line with our thinking.

Like the planning agencies of the depression era when clerical help was over plentiful, we still could go on and on with our research. We do not know all we should know. The pace of events, however, forced us to make a plan. It has been driven home to us that "doing does it". We probably know more about the Region and how it should be developed than anybody else. Since, therefore, the clock is ticking fast and pages are being torn from the calendar we are making a plan now. We hope this plan will be a good one. We know it will be better than no plan, but we don't have time to be sure that it is the best possible plan. We have hired Ladislas Segoe to help us with his long experience and high order of intelligence, so we think it will be good. We are sure, however, that good or fair, it will actually benefit the 3 million people we serve.

## The Ann Arbor Parking Plan

Hon. WILLIAM E. BROWN, Mayor, Ann Arbor, Michigan

**M**Y SUBJECT is controversial and I know very well some of you won't agree with me but I want to offer a few facts as to how we solved the problem of parking in Ann Arbor. It has worked out. We started by saying we wanted to solve the problem and were going to do it. Ann Arbor is a very progressive city. Ann Arbor is the home of the University of Michigan. Ann Arbor is a small city of about 48,000 people plus a considerable fringe population. The Police Department estimates that there are 25,000 automobiles on our streets plus 4,000 students' cars. All of this has created a tremendous problem for the city. Shortly after the war—in fact, in 1945, I was elected Mayor having been in the investment business before. My idea was to issue revenue bonds and with these we could go out and buy lots with the idea of establishing off-street parking. We knew people wouldn't vote for general taxes to support the parking lots and it seemed to me that we could estimate all our revenue would be from these parking lots and parking meters and that we should buy the best lots in the best part of the city. We could issue revenue bonds for this purpose and the banks assured me they would give me \$300,000 worth of bonds for this purpose if we could go out and try and solve the problem. The bonds were offered, and we started the system. It took a little while to get operating and we found some of our lots weren't large enough. Within a week the lots were filled. We decided we could build a three deck structure which could handle some 350 cars. We built this three-deck structure which we felt would be good for 25 years but in two months you couldn't get into the place.

Ann Arbor bought its first parking lot in 1947 and up to the present time has about 700 off-street parking spaces with a minimum of outside and expert planning. We didn't spend any money for plans and didn't throw any away. We saw what the lots would do in various locations but the problem is still not entirely solved.

We bought a lot on the corner of Main and Williams Street—across from the Detroit Edison. It was bought with the idea it could go nine stories in the air and probably the day will come in the very near future of going into the air or going underground.

The lot in the State Street area (college corner) is making money. All of these lots we have purchased for \$630,000 . . . with \$150,000 cash on hand we only owed \$510,000. We recently bought another lot near the Court House for \$100,000 and before we paid for it we made \$40,000. We charge 10c for the first two hours and 5c each two hours after that and in a month collected \$88,000. Saturday business has increased 40% and business has gone up every day since. We don't worry about our people going to Detroit any more or going downtown



and buying \$1.50 worth of merchandise and paying \$2.00 to park.

The benefits other than the money we have made . . . have added \$300,000,000 assessed valuation of which between \$2,000,000 and \$3,000,000 can be traced to the additional lots. What does it mean? It has increased our revenue from \$5,000 to \$30,000 per year, increased the size of our lots in the State Street and downtown area. It has not been voted on but we feel there is no question about what the final outcome will be. If our hopes are fulfilled we will build a nine-story structure in the downtown area or acquire additional lots. The challenge to me is tremendous. The people in Ann Arbor are proud of the system—it belongs to them and it is a money-making proposition. They never dreamed that it would ever come out anywhere near the way it has. In a period not to exceed five years, we will make about \$150,000 if not more to be added to the general fund, which will be pretty nice and we will have solved the problem.

Interest has been displayed in our system by cities all over the country. There is hardly a city in the country that hasn't written about the Ann Arbor plan. We have tried to get the people who wanted to know about it to know what has been done. We have discovered that we're no different—that wherever they wanted to solve the problem they could solve it. It is dangerous ground to get on but we have found that many places have not solved the problem because of private interests that want to further their own interest. What has happened in many towns is that they say the city shouldn't go into the business at all. Then we ask: What is your plan? What have you got to offer? We don't believe that any government should ever go into the business unless there is a service that the public requires that can't be furnished by private enterprise. Private interests at one time owned all the water companies but we found out it just didn't work and the municipalities had to take over. The same is true with sewage disposal. Parking is just as important today as utilities. It is the duty of each community, each city to solve that problem itself. We might just as well face the fact that the system is tax free and that is a tremendous subsidy in itself. It has been said that when you take certain pieces of property off of the tax rolls you are likely to cause a lowering of revenues. For every dollar we took off, we have added \$50. That will be true practically any place you go.

There are several ways the money can be raised—general taxation, revenue bonds, special assessments or by a combination. Personally, I don't think special assessments would work out well and to me revenue bonds are the best way. If you state the problem, see that it's set up right, bond houses in this country will be tickled to buy.

The laws are different in different States, but this is what we were able to do in Michigan. I think that if you can get somebody to stop talking and get out and actually do the work and have these lots and

structures built for you, they will not only be practical but furnish to the public something they need that will keep your downtown area from deteriorating the way that ours had started to. I think the fact that we have new streets and a general face-lifting all the way through is important. In Ann Arbor over ten major developments have been started after we started this system. Of this I am sure . . . from the experience we have had, if you people would take it to heart it would do something for your own community.

## The Power of the People

GRANVILLE W. MOORE, Vice-President and General Manager,  
Greater Dallas Planning Council

OTHER than "The glory of God, the Creator of the Universe," I can think of no other subject of greater importance affecting our daily lives than the one which is today given to me—"THE POWER OF THE PEOPLE." I confess from the very beginning a humility of spirit, humble and grateful to Him from whence all powers are derived. Let us, therefore, hope that, as we address ourselves to this subject, we invite positive thought for the accomplishment of the good and the attainment of the countless blessings which are ours if we but diligently seek them.

The good and noble purpose for which we are here assembled in this conference under the auspices of the American Planning and Civic Association whose aim is "to create a better physical environment which will conserve and develop the health and happiness and culture of the American people" is within itself truly a tribute to the spirit of man which in his search to fulfill the purpose of life is but a manifestation of "THE POWER OF THE PEOPLE." So we gather here and elsewhere throughout the Nation as planners. Planning how best to bring to fruition physical and cultural accomplishments for the true happiness of those about us. Whether professionals or lay-citizens, the purpose of our pursuit finds its beginning in the first Chapter of Genesis, "In the beginning God created the heaven and the earth. And the earth was without form and void; and darkness was upon the face of the deep. And the Spirit of God moved upon the face of the waters.

"And God said, Let there be light: and there was light", reading on we come to the verse, "And God said, Let us make man in our image after our likeness: and let them have dominion over the fish of the sea, and over the fowl of the air, and over the cattle, and over *all the earth*, and over every creeping thing that creepeth upon the earth.

"So God created man in his own image, in the image of God created he him; male and female created he them.



"And God blessed them, and God said unto them, Be fruitful, and multiply, and replenish the earth, and subdue it."

It is, therefore, obvious that the powers of man are divinely given and that his responsibility in the exercise of planning and creating directed in the beginning are derived from God, the Great Planner of the Universe. It is not intended that these remarks shall encroach upon the prerogatives of "men of the cloth", but chiefly to remind each of us of the source from whence our powers are obtained and our responsibilities in the exercise of them. If we are disturbed and, righteously I believe we should be, by the short-comings, the mistakes, the errors, and the wrong-doings so widely publicized with respect to public officials throughout our country more especially in our national capital, without regard to party, we must of necessity ask ourselves whether or not we, as a people, have failed in faithfully discharging our privileges and rights under our Constitution. Should we, therefore, point with scorn to errant public officials; or should we feel a deep sense of self reproach? Under the Constitution, our founding-fathers, guided by Christian influences and seasoned by early and noble experiments, wisely placed the government in the hands of the people. Unlike earlier experiences preceding the establishment of the Constitution, it is the people, you and I, by our individual vote, rather than Legislatures, who determine who shall serve us at the national level and under what form.

I subscribe fully to the theory that "we either run our government or government runs us."

The complexity of modern society, the growth of our Nation, and the advancement of science have carried us far afield from the opportunities of participation in local government when compared to the days of early American life.

Because of this intimacy of village or town life, we are in a sense, today, by comparison, far removed from many aspects of governmental participation. Great cities have grown up in stragetic areas in which citizens number in the thousands; yet, under the Constitution our basic concept of representative government remains the same. Our opportunities are limited only by the degree of our willingness to actively share in government. Doubtless because of the rapid expansion of our American cities, greatly aided by science and invention, we have tended to follow the beckoning of profits to be had in business leaving the matter of government to "George." In more recent times, two World Wars have additionally accelerated this tendency. Our preoccupation in expanding our businesses and in acquiring, perhaps for our enjoyment, commodities and services that money could buy, has meanwhile permitted, if not encouraged "self-seeking politicians" as we so many times loathingly refer to them, to gain control. If we are to retain and to develop to its fullest measure the benefits of democracy as free men and women, we must of necessity place the same value upon

the benefits and privileges of citizenship together with its responsibilities as we place upon our businesses or professions. Unless we do, there is the growing danger that business, private free-enterprise as we term it, under the guarantee of freedom provided by our Constitution will wither away. The conduct of government must be cultivated just as we cultivate plants of the field and garden. We must make a habit of participating in government; we must encourage others by example. It behooves us to set a proper pattern which the youth of America may follow. As Samuel Johnson once said, "The chains of habit are too weak to be felt until they are too strong to be broken." How much more desirable it is that we should build habits which will endure and which if instilled early in the life of our youth will perpetuate the benefits and privileges of our America. Historically, our forefathers through their labors and sacrifices have handed down to us a heritage which God grant we may be able not only to preserve but to further enrich it for those yet to follow.

As Abraham Lincoln so eloquently said in part in his Gettysburg address—"that this Nation under God shall have a new birth of freedom and that government of the people, by the people, for the people shall not perish from the earth", it is, therefore, fitting for us to regularly renew and rededicate ourselves to these principles. If we, in justification of our claim to greatness as a Nation, refer only to two great documents, we are reminded again and again that ours is a government of the people. In the preamble of the Constitution, it begins, "We, the people", and as referred to in Lincoln's memorable address again the reference is "of the people." Under God and under our democratic form of government "THE POWER OF THE PEOPLE" is supreme, as long as we, the people, recognize the source of our power and use it energetically, though wisely, in providing the means by which it may serve us best.

Good government begins at home. I emphasize the word "HOME" for we as a people are a product of the family group. We acquire our earliest concept of both opportunity as well as our responsibility in the home. Next, it is the joining together of several families in a given area for the purpose of obtaining benefits co-operatively that provides the basis of living together, their only restriction being in the interests of the common good. This, therefore, is the beginning of government. Good government, therefore, in our villages, in our towns and cities will through natural processes be reflected in state and finally national government. I realize that I have been speaking in generalities and in terms of general government. Let us now consider some practical examples in our own home towns or cities.

In mine, Dallas is blessed with a Council-Manager form of municipal government having embraced this most efficient plan in 1931. Our Council members including the Mayor serve not for the compensation nor



for the power attendant to the office which they hold but in the fulfillment of a desire to be of service to their community. We are indeed pleased with this form of government; we have it because our people wanted it. It is non-partisan. It is an example of "THE POWER OF THE PEOPLE." Throughout our city, there are numerous neighborhood groups known as Improvement Leagues. In addition to our central Chamber of Commerce, there are several urban Chambers of Commerce. Within the County there are 21 organized municipalities. Each of these groups represents the means by which the desires, the hopes and ambitions of its members may be made known. Obviously there are other organizations representing religion, education, culture, science, commerce, and industry. The composite thinking of the various groups expresses the noblest purposes of citizenship when these ideas and objectives reflecting the desires for the common good are presented to the governing bodies of the various units of local government. One of the instrumentalities of this type of service is to be found in the Greater Dallas Planning Council. Its membership is truly representative of all areas and interests of the larger community. It is a clearing house for information and an agency of mutual service for both citizen and local government alike. It is not enough to elect public officials of good character and ability then leaving them to do the job alone. Intelligent, thoughtful counsel, and support, after election, is an obligation we, as citizens, owe to those willing to serve us as our duly elected public officers and administrators. Such support guarantees continuity of plans and programs. The Council's program of work is to present ideas and recommendations based upon factual information believing that an informed citizenship will act wisely if and when decisions are to be made. Not only is its membership representative of Greater Dallas area-wise but because of the wide diversity of interest in which its members are engaged privately, there is brought to its council both expert professional and technical guidance as well as experience of the broadest possible base. As provided in its Charter among other things, "the Council shall be and is charitable in purposes as well as educational and all of the assets of the corporation are hereby irrevocably pledged to such educational, charitable and civic activities of the character stated." The Council with its membership of nearly 300 citizens, therefore, directs its activities toward achieving the greatest possible good for the overall community rather than projecting some limited objective peculiar to a minority. It is a non-profit and non-political corporation. It obtains its financial support from citizens and businesses having an interest in efficient local units of government. These citizens are firmly convinced that good governments at all levels stem from the practice of strong local self-government.

Dallas like many cities is not without its faults; its failures are many; but its successes are even greater. We feel that we have grown

both in size and service because of our unwillingness to accept any failure as final. Perhaps no city is perfect. If there is any finality at all with respect to the destiny of a city, it is whatever decision its citizenship may make as what that city shall be. Will it be a city of good government with a plan for its orderly and progressive development? Will it be a city symbolical of its citizen's dedication to community service, to the true, the good, and the beautiful,—one to warm the heart and stir the imagination? It can be—for “THE POWER OF THE PEOPLE” can make it so.

Because of the blessings of a democracy, an acceptable vehicle of municipal government, a willingness of an informed citizenship to strive for improvement, and because of the inherent right as free citizens with a “will” to work at the job, we believe that “THE POWER OF THE PEOPLE” is best expressed in an increasing service by government to the end that the total of all things, physical and spiritual, will add to the happiness of all. To achieve such a goal, we must always remember the divinity of our powers, the sacredness of our obligation to the responsibility of citizenship for then—and only then—“THE POWER OF THE PEOPLE” is good. May it, therefore, be as our Creator planned it in the beginning.



## PANEL ON CITY WATERFRONTS

THOMAS E. McCORMICK, Executive Director, City Planning Board,  
Boston, Mass., Reporter—

PANEL: Chairman: George E. Emery, Director City Plan Commission, Detroit, Mich.

MEMBERS: Carl Berg, Planning Consultant, Louisville, Ky.  
Myron D. Downs, Consultant, Cincinnati, Ohio.  
Robert F. Foeller, Planning Director, Toledo-Lucas Co. Plan Commissions,  
Toledo, Ohio.  
Carl L. Gardner, Secy., Chicago Plan Commission, Chicago, Ill.  
A. E. Suro, Exec. Dir., Montgomery Co., Planning Commn., Dayton, Ohio.

**M**R. GEORGE EMERY, who presided at the session, opened the meeting by calling attention to the fact that every large city in the country is situated on a waterfront of some kind; that his own city of Detroit had a limited amount of water frontage and that there was a conflict over the use of the waterfront between marine, industrial, recreational, and other interests. He hoped that the panel would show the thinking and reasons behind any program for waterfront development that is being carried out as part of their city's comprehensive plan.

Papers of Messrs. Carl Berg, Carl Gardner and A. E. Suro were available and, since they trace the history of their respective city's waterfront problems, they have been incorporated in this report.

Myron D. Downs, former Cincinnati Planning Engineer, discussed that city's waterfront problems. Though the city had previously talked about plans for redevelopment of its waterfront, little was done until the 1937 flood focussed attention on the need for doing something about it. One of the difficulties of a redevelopment of Cincinnati's waterfront is the location of the railroads on the riverbank and the fallacious assumption of the permanency of this arrangement. Last year for the first time tonnage hauled on water exceeded rail tonnage.

Sixteen percent of the city was flooded in 1937, but since that time seventy-five percent of the flooded area has been made safe by necessary control and protection devices. Cincinnati has water works problems similar to Louisville's since their raw water supply comes from the Ohio River. The effluent from their sewage treatment plant is drinkable. Cincinnati has a second plant for the treatment of waterborne wastes in the works.

The initial, and most efficient, step in the redevelopment of Cincinnati's riverfront is construction of the so-called Third Street Distributor. This is a major traffic distribution facility connecting two limited access highways and the river bridges to Kentucky. It will cross the city immediately south of the central business district paralleling the present Third Street. Preliminary engineering plans for the Distributor have been completed and purchase of land for the right of way has been going

on for some time. In order to complete their plan of riverfront development, some eighty million dollars in Federal funds are needed. Cincinnati had put through an ordinance to prohibit the building of residences below certain gauge readings, but it has since been repealed. On the whole, Cincinnati continues to progress towards realizing redevelopment of its waterfront.

*Robert F. Foeller*, Planning Director of the Toledo Lucas County Planning Commissions, completed the panel with a review of the Toledo situation. Toledo is a large distribution center and is strategically located to take advantage of the St. Lawrence seaway. It is felt that their chief competitors for shipping when the seaway is built will be Chicago and Milwaukee. The port is a key element in Toledo's master plan. In 1924 a plan was evolved for moving the port facilities out to the river mouth and \$50,000,000 has been spent on improvements since that time. Since Toledo is the hub of a rail network involving seventeen railroads, which own most of the waterfront, there must be very close cooperation between the railroads and the water interests.

Toledo has one mile of deep water wharves and a deep water turning basin which allows it to dispense with the use of tugs. Three recreation areas have been set aside on the lake front, but they have not yet been developed. Their most serious problem is the silting of the Maumee River. Valuable top soil being carried down the river makes constant dredging necessary. Army engineers are now dredging this silt and dumping it out in the lake. Toledo is now thinking seriously of conserving this silt by using it as hydraulic fill to be placed on top of dumps and other filled land.

Since their intake for drinking water is far out on the lake they do not have a water supply problem. Toledo's program is (1) To solve the silt situation, (2) to set up more recreation on their waterfront, and (3) To establish some method of waterfront zoning to guide proper development.

*Mr. Emery* opened the discussion by stating that Detroit had begun construction on a 72-acre civic center waterfront development. In order to provide more waterfront space they were relocating the harbor line 200 ft. out in the Detroit River and this will contribute 18 additional acres of land.

*Prof. Whittemore* of the University of Michigan gave it as his opinion that cities should strive for the development of parks on their waterfronts since they have great popular appeal and can be easily carried out. He also felt that the most significant part of Chicago's Burnham plan that has been carried out was that of the lakefront development.

A panel member, *Mr. Myron Downs*, called attention to the fact that about 400 miles of streets in Chicago have been built more or less in accordance with the Burnham plan and that 17 miles of expressway development had their axis on the Burnham plan.



*Mr. Harland Bartholomew* of St. Louis said that he understood that the rearrangement of the railroad facilities and the Chicago River development were a part of the Burnham plan and were fundamental in Chicago's development.

*Mr. Tom Wallace* of Louisville objected to the building of speedways along the edge of the water front since traffic noise interfered with park and waterfront residential development.

The answer to this was that by proper grading and landscaping much could be done to combat the noise and that probably a parkway should be considered instead of an all purpose highway.

Upon the question by *Prof. Walter Creese* of the University of Louisville it was made clear by *Mr. Emery* that the *Saارين* plan of 1923 for Detroit concerned only a civic center design and not a general plan for the city.

*Mr. Robert B. Garrabrant* of Washington, who served on the panel and read *Mr. Gardner's* paper, said that the Washington airport had been created by the filling of part of the Potomac River.

*Mr. A. H. C. Shaw* of Cleveland stated that riparian rights on its lakefront are owned by the State but that the city has acquired some for freeways and expects to acquire all the remaining lakefront for recreation purposes.

To summarize, it appears that extensive damage by inundation and shore erosion were the moving factors in awakening cities to the need of having a comprehensive plan for waterfront development.

On evidence the speakers, after making due allowance for essential water borne commerce and industry, stressed a fundamental desire to reclaim waterfronts for recreational purposes coupled with a system of river or lake shore drives to provide relief from traffic congestion in the central business district. Admittedly there is a problem here of combining a utilitarian use with an aesthetic use. Proper grading and landscaping, plus ample space, can solve the problem. However, in a constricted area the aesthetic use stands to be impaired somewhat.

Railroad use of the shore line presents a worse dilemma. The cost of depressing and obscuring from the public view would be equivalent to construction costs on a new location. On the other hand, aren't the difficulties of providing a new location, which would serve existing plants, in most cases insurmountable?

Solving the waterfront problems of great municipalities will take time, money, and effort on the part of many cities across the Nation.

Three special statements follow.

## Louisville's River Front

CARL BERG, Planning Consultant, Louisville, Kentucky

**L**OUISVILLE owes its establishment and much of its continued growth and activity to the Ohio River. When the West was first being explored and developed the falls presented a barrier to river transportation dividing the Upper and Lower Ohio.

As river transportation increased a lock and dam were constructed which permitted the unobstructed passage of boats around the falls.

In 1949 the total water-borne freight tonnage to and from Louisville amounted to 3,532,567 tons. This tonnage has increased considerably since that time.

When the dam at the falls of the Ohio was built it provided a constant harbor pool stage of 420 feet above sea level, except in times of flood. It also provided an opportunity for the manufacture of electric energy by the establishment of the hydro-electric plant on Shippingport Island. The lake created by the dam offers many recreational opportunities. If and when the river is cleaned up by anti-pollution action, its use for recreation will increase. To protect the commercial and recreational use of the river, a coast guard station has been provided at the foot of Fourth Street.

The water supply for Louisville is obtained from the Ohio River about 4 miles above the dam and the problem of eliminating pollution created locally as well as that from upstream is becoming more acute. Louisville can hardly condemn other cities for the pollution of the river so long as she empties her raw sewage into the stream. It is to be hoped there will be concerted action to clean up our river.

The Ohio River Shore line of Jefferson County is 37.7 miles, of which ten miles are within the city limits.

Much of Louisville's industrial development is located on, or near to the river bank. River frontage which is developed with industries, public utility installations and railroads amounts to 4.3 miles. The City owns one mile of this industrial river frontage which is leased on a long term basis to private enterprise.

Since 1940 the major industrial expansion of the area has taken place in the county along the river to the southwest of Louisville. This area, known as Rubbertown, because of the synthetic rubber and other allied products made in this area, occupies approximately  $2\frac{1}{2}$  miles of river frontage.

The City of Louisville has two major parks, a golf course, and a yacht basin fronting on the river. Public recreational facilities occupy  $3\frac{1}{2}$  miles and water supply and sewage disposal installations use  $\frac{1}{3}$  of a mile of the river front. Fountain Ferry Park, a privately owned amusement park along with boat clubs and other social clubs utilize about one mile of the waterfront.



About four miles is occupied by residences and 18 miles devoted to agriculture.

The Federal Government controls over  $3\frac{1}{2}$  miles of shoreline for locks, dams and a fish hatchery.

In 1937, about one half of the City of Louisville was under water at the crest of the flood. However it was not until after another serious flood in 1945 that active measures were taken to provide the city with flood protection. Work is now nearing completion on 16.8 miles of flood wall. The structure required the interception of all existing sewers and the construction of 13 pumping stations to pump sewage created in, and rain water falling on the area behind the wall. 387 acres will be required for ponding areas in the vicinity of pumping stations. All of the walls and levees and three pumping stations will be completed this year. Six more pumping stations will be finished in 1953 and the entire project is expected to be completed in 1954. The cost of rights of ways, provided by the local community, was \$2,400,000 and the cost of construction is \$25,688,000.

During the glacial periods, the Ohio River scoured a wide and deep channel which is now filled with sand and gravel. The old river bed is a huge reservoir for clean cool ground water which is one of the most valuable natural resources of this area. During World War II, the industrial demands for this ground water were so great that local regulations were established to control the use and recharge of the ground water reservoir.

Immediately adjacent to the alluvial deposits of the prehistoric river bed is an area underlain with an impervious layer of shale. During wet seasons this wide flat area is very difficult to drain. From a planning viewpoint, this area presents more problems than any other in the county. Septic tanks will not function properly in this area. Developers have persisted to build and the unsuspecting public have continued to buy homes in this danger zone. Much of the area has been zoned heavy industrial. Up to now, there has been no adequate zoning regulation to prevent residential development in industrial areas or in areas unsuitable because of poor drainage.

Immediately after the 1937 flood the city and private citizens jointly contributed funds for the purchase of land and residences located in areas which were periodically inundated. Excellent progress has been made in the removal of residences in the area known as the "Point", near the mouth of Beargrass Creek. This area is now being developed as a park. Recently the Planning Commission designated a large area of bottom land along the River Road, east of the City limits for park development. The Upper River Road has been designated as a major highway and lends itself beautifully for development as a parkway.

The flood wall traverses portions of Shawnee and Chickasaw Park which along with pumping stations mar the park atmosphere. However

the acquisition of rights of way for the flood wall in many places has afforded opportunities for the development of new recreational facilities along the river front and in ponding areas. A new 20 acre park is soon to be developed on an area behind the flood wall which formerly was a city dump.

The Zoning Plan for Jefferson County provides for industrial expansion of industry along the lower Ohio River front with opportunities for docking facilities for waterborne transportation of raw materials and finished products and ready availability of water for industrial uses.

The sewer interceptors built in connection with the flood wall will help the city in its efforts to provide facilities for partial treatment of raw sewage before dumping into the river.

With the expansion of the Louisville metropolitan area in Indiana, the highway bridges crossing the river are inadequate and studies are now being made for the construction of at least one more bridge.

It is hoped that in the future, by intelligent planning and use, the River will become even a greater asset in the development of this community.

## Dayton Riverfront Development

A. E. SURO, Executive Director, Montgomery County Planning Commission,  
Dayton, Ohio

**I**N 1909 the recommendation for the development of river boulevards and parks along the city waterfront was made, probably for the first time in Dayton's history. In 1911, the Frederick Law Olmsted report commented favorably upon the provisions previously made for the development of river boulevards and parks.

However, the positive application of his plan did not become a reality until 1913, when, shortly after the receding of the waters of a disastrous flood, the question of riverfront development and its protection assumed paramount importance.

The issue was fully resolved when men of the same calibre as Olmsted, members of the aggrieved community planned the establishment of the Miami Conservancy District in 1915, for the purpose of building and maintaining flood control works in the Miami River Valley.

Although flood control was probably the primary consideration in the establishment of the Conservancy District, river beautification was, nonetheless, an outstanding feature of the program.



In 1926, the Technical Advisory Corporation proposed the correlation of the river boulevards with the main thorofare plan. The recommendations for the development of the river boulevards were based primarily upon their value as a vital system of supplementary traffic arteries to provide relief for the ultimate traffic congestion in the central business district and other over-loaded main thorofares in the vicinity. This proposal, however, was rather strange since the interlocking of river boulevards with the program for highly travelled arteries only served to annihilate the aesthetic values of riverfront area and add traffic hazards to our recreation sites. Nevertheless, the proposals were incorporated in the Comprehensive City Plan of 1926.

Again in 1939 and in 1940, the City Plan Board proposed a system of marginal river boulevards designed to achieve three fundamental objectives;

- (1) to provide relief for traffic congestions in and around the Central Business District;
- (2) to provide a system of pleasure drives, connecting parks, reservations and other areas of outstanding beauty;
- (3) to provide attractive highway approaches to the city.

The report of the City Plan Board pointed out that the type of traffic-carrying thorofare which could be developed under average conditions in Dayton, would be far superior to any main thorofare. The proposed boulevards would serve as links to 16 public and semi-public recreation areas located along the four streams.

Although criticism of past proposals and plans prepared under different circumstances and conditions is often done lightly and sometimes without considering every factor involved, it is inescapable that the link to any inter-park or inter-recreation site should not be, by any chance, an open speedway for those who wish to enjoy the landscape compositions and those who seek enjoyment in parks. In the case of Dayton, this outlook is of paramount importance because the city is well served by many diagonal thorofares which facilitate the movement of traffic to and from the business area. Moreover, in the future, many of our present traffic problems which were proposed to be solved by the establishment of river drives, will be further alleviated by the completion of an outer drive, commonly known as a circumferential highway.

One of the distinctions of Dayton, is the extent of the gifts made to both the municipality and semi-public agencies by generous industrial leaders. Triangle Park was deeded to the City by Colonel E. A. Deeds and C. F. Kettering in 1941. In accepting the property, approximately 100 acres, the city saw the addition of one of the best and most important units in its general boulevard park system. Kettering Field and Deeds Park were also given to the city for park purposes. Carillon Park, which increases the beauty of the skyline view of the city as one approaches from the south side, was once a 35-acre tract of wasteland, periodically flooded.

Old River Park, operated and owned by National Cash Register Company, sets an excellent pattern for recreational areas.

Of the total area adjacent to the Dayton Riverfront, approximately 31 percent is in developed park land; 16 percent in public and semi-public land; 16 percent in vacant land, most of which is near the outer boundaries of the municipality; a low of 9 percent is used for industrial purposes. Of the remaining 28 percent, the great majority is in residential use, interspersed with local business establishments.

Additional parks and reservations along the rivers should be a major part of any program for the city's future. Montgomery County, which at the present time has no recreation agency, is assuming an active interest in the development of its rivers and adjacent areas. The Miami Conservancy District dam sites are now being considered by the County Planning Commission for the purpose of increasing their attractiveness. Around each of the five dam sites, and along the streams, are beautifully wooded tracts which were included in the land purchased by the District in the early twenties. The Board of Directors has just established the Conservancy Park System to supervise an area of  $3\frac{1}{2}$  acres for public use.

Supervision of the lakes, which occurred in connection with the necessary excavation to obtain materials for the building of the earth dams, will be the most notable feature of this new program, as this region has very few such bodies of water. At Englewood, the lake area will be above 100 acres, and will have a shore line of six or seven miles.

Other territories could be turned into park areas to save them from exploitation and ruin. Recent land-use studies indicate that most of this land is not needed for business or industry, or for the expansion of any residential community.

At the present time, the City of Dayton is carrying forward the river boulevard program in conjunction with its major thorofare plan.

Construction of a bridge connecting Salem Avenue and First Street has just been completed. Within the immediate future, another bridge joining Patterson Boulevard with Riverside Drive, and widening the latter, north to the Great Miami Boulevard, will be initiated. The city has also acquired the necessary right-of-way for the extension of Miami Boulevard West to Sunrise Avenue and construction should feasibly start in the near future.

Though various suggestions have been made to utilize the river bed to provide relief from the parking problem, it is concluded that the amount of use that these areas would get would not warrant the estimated expenditure.

Because any future treatment of our water front apparently will have to be done in the light of new traffic demands, it is my humble opinion that these three items are of intrinsic importance:



- (1) Re-evaluation of facts as to the need for river thoroughfares to funnel traffic out of Dayton's Business area.
- (2) Co-ordination of recreational plans between city and county so that areas beyond city limits and along the river can be put to their best use as centers for recreation.
- (3) Industrial dispersal or study of possible rate of decentralization and redevelopment in reference to the need for wider lanes along the river front.

## Chicago Waterfronts

CARL L. GARDNER, Secretary of Chicago Plan Commission, Chicago, Ill.

EVERY great city in the country, with the exception of Worcester, Massachusetts, is situated on a water front of some kind. Early in our history, attention was focused on city water fronts because waterways were developed as the primary lines of transport and naturally came in for a considerable amount of attention.

Later, however, as the railroads—and more recently the trucking industry—became the dominant inland freight carriers, our river banks and lake fronts assumed lesser and lesser importance. As a matter of fact, until recently there has been a tendency in city building to turn our backs upon these great natural assets. Often, by outright abuse and neglect the waterfronts of American cities frequently marked the worst blighted districts. Now, however, the urge is more and more to reclaim these long-neglected waterfronts in order to provide in part for the recreational needs of city dwellers.

This discussion would be incomplete without reference to Chicago's lake-front development. Here certainly is the nonpareil example of sound planning and achievement in city development—where the application of foresight and perseverance has paid off abundantly for the everlasting benefit of all the people of a great metropolis. It might also be construed as an example of planned redevelopment—of the intelligent reclamation of several miles of shoreline bordering upon Lake Michigan.

The success of the World's Fair of 1893—The Columbian Exposition held in Chicago—showed the many advantages of planned development. In the period following 1893, the unplanned nature of the growth of the city became apparent. In 1906 the Merchants' Club commissioned Daniel H. Burnham, Chief Architect of the World's Fair, to prepare a plan for Chicago, and in 1909 the Commercial Club, which had merged with the Merchant's Club, presented the Plan of Chicago to the City Council, stating that "Chicago . . . realized that the time has come to bring order out of chaos incident to rapid growth." The Burnham Plan concerned itself with many factors in order to achieve a better city for Chicago's citizens. Foremost among the recommendations

which it included that have since been carried out, are the waterfront improvements—both along Lake Michigan and along the banks of the Chicago River.

The original plan for beautifying Chicago's lake front by developing a continuous park, was embodied in the Burnham Plan. Seventeen out of the 23 miles of Chicago lake front have been improved as a continuous public park at a cost of approximately \$300 million. Chicagoans have willingly supported this development, although there have been concerted efforts from time to time to make encroachment upon this public facility. Through the stalwart efforts of such civic leaders as Montgomery Ward who fought these attempts in the courts, the integrity of Chicago's magnificent lake front remains unblemished. It is interesting too to note that in seeking an entry to the city from the south, the Illinois Central Railroad just one hundred years ago, was required to construct a trestle from 49th Street to Randolph Street, a distance of over five miles along what is now Burnham Park. To protect this right-of-way and operations, the Illinois Central had to fill in the submerged land where necessary. Thus was started Chicago's "made-land" lake front development. It was recognized that interposing the railroad between the city and the lake would obligate the railroad to maintain break-water and other devices for its own protection, thereby relieving the city of this heavy expense. Since Burnham Park has been developed the railroad right-of-way has been depressed and electrified and for all intents and purposes, obscured from public view.

The development of the river banks also loomed large in the Burnham Plan. When the South Water Market Street, now the well-known double-deck Wacker Drive, was initiated the purpose was to reclaim the river front for the use of the people and to provide more street capacity in a part of the city where it was most needed. Removal of the market was incidental, although it was both unsanitary and unsightly and every sixth vehicle on the downtown streets was a market vehicle. The purpose of the lower level was to provide direct access for teams operating between the lake front rail terminal and the west side warehouse and terminal districts. The extension of Wacker Drive as an integral part of Chicago's expressway system, to make connection with interchange facilities of Congress Expressway, is going forward and completion is expected in 1955.

The recent proposals to consolidate the south side railroad terminals, and the development of a centrally located civic center are further evidences of interest in the reclamation of Chicago's river banks. Both are planned for development along the east bank of the South Branch. The esplanade and plaza developments along the river sides of the Merchandise Mart and Daily News Building are also carried out in the spirit of the original plan. Studies are now being made to utilize the north bank of the Chicago River for multi-decked terminal parking,



capped by a landscaped esplanade. This improvement would carry between the Merchandise Mart and Wrigley Building at Michigan Avenue. Work is now going forward in extending Chicago's lake-front park. One of the moot points in this development has been the inclusion of a high-speed parkway for the full length of the lake front. Not only has it facilitated the building of this tremendously important traffic artery, but it has brought much enjoyment to the millions who use it.

The Chicago Plan Commission recently reaffirmed its long-standing policy with respect to Chicago's lake front (to) "oppose in principle any use, public or private, of Chicago's lake front for other than recreational or cultural purposes."

## PANEL ON RECENT DEVELOPMENTS IN ZONING

A. H. C. SHAW, Zoning Engineer, City Planning Commission,  
Cleveland, Ohio, Reporter—

PANEL: Chairman: Flavel Shurtleff, Counsel, American Planning and Civic Association.

MEMBERS: Howard T. Fisher, Architect and Planner, Chicago.

Robert B. Garrabrant, Asst. Mgr., Construction and Development  
Dept., U. S. Chamber of Commerce, Washington, D. C.

S. Herbert Hare, Planning Consultant, Kansas City, Mo.

Kenneth L. Schellie, Consultant, Indianapolis.

Ladislas Segoe, Consultant, Cincinnati.

Frank F. Stearns, Dir.-Secy., The City Planning Board, Miami, Fla.

Max S. Wehrly, Dir., The Urban Land Institute, Washington, D. C.

Before introducing Mr. Segoe, Chairman Shurtleff opened the session with a few appropriate remarks on the progress of zoning in recent years.

*Mr. Segoe* quoted several paragraphs from a recent Quarterly of the American Institute of Planners urging better planning and zoning. The gist of his remarks was that zoning should not obstruct good planning. In reply to a question on how to zone a blighted area now predominantly run-down residence in character but destined to be used eventually for industry, Mr. Segoe suggested that in most cases it would be best to zone the area for residence use until the time comes when industry is ready to take over the area; that zoning should follow a properly designed plan, but at the proper time.

*Mr. Fisher* compared building codes and zoning ordinances and was of the opinion that some of the methods used in codes should be employed in the revision of zoning ordinances and the revision should encourage better building. He discussed sun orientation and cost now and in the past. In the selection of shopping center sites, Mr. Fisher said that the topography need not be level; that access highway capacity should be studied; that the site should be selected upon merit and not for some less important reason.

*Mr. Garrabrant* discussed zoning for industrial uses, the exclusion of new habitations in industrial districts for the protection of industries that may be in the district, the scope of industrial zoning and the reclassification of industries in the light of modern methods and practices, planning to reduce traffic bottlenecks, the reduction of height limits now in most zoning ordinances since the trend in the past decade has been one-story plants on large sites where ample space is also provided for off-street parking and loading, and landscaping.

*Mr. Hare*, commenting on the trends toward complicated zoning ordinances, said that there is a tendency toward too much refinement; that zoning may suffer by incongruous regulations; that zoning should protect the property owner but not hinder proper development and that zoning should be adjusted to local needs but be not too susceptible to



special interests. Mr. Hare favored revising industrial classifications to recognize new processes and methods whereby nuisances commonly associated with certain industries when zoning was young no longer exist due to scientific controls and improved techniques. He was hopeful that aesthetics as a reason for zoning control might be more recognized by the courts. He mentioned the complications in zoning that arise in communities divided by political subdivision lines, such as county or state lines.

*Mr. Stearns* told how his Planning Board had solved a problem in Miami that is not uncommon in other cities. It relates to special projects and improvements that would be beneficial to a neighborhood and to the community but not in strict conformity with the zoning ordinance. Some have been granted conditionally as a "variance," more properly, as an "exception," instead of rezoning which would have permitted other uses in the same classification which would not have been as acceptable to the neighbors, such as a clinic in a residence district or a shopping center in a ribbon business district with a parking lot bulging into the residence district in the rear. Mr. Stearns said he planned to recommend to his Planning Board that the zoning ordinance be amended to provide for Special Use Districts in which the Planning Board and the City Commission can, after public hearing, approve particular plans of development and thus allow a certain amount of desirable elasticity in the zoning districts.

*Mr. Wehrly* said an economic survey should be the basis of the way land is to be zoned; that in most cities too much frontage is zoned for business and industry; that the bedroom areas should be conveniently located with respect to industry; that a market analysis of a community is essential to the proper location of a market center. He discussed the design of shopping centers and the allowance—cars per 100 square feet of selling space—for parking space.

*Mr. Schellie* discussed flood plain zoning. He said private enterprises should not be permitted in low areas subject to periodic inundation and called attention to the enormous losses annually due to floods and the valuable information on flood records that may be obtained from the State Flood Control Board and from the U. S. Engineer Corps. Mr. Schellie described measures taken to protect river cities against unusual floods and mentioned the flood walls in Cincinnati and Louisville. Evansville and Paducah were cited as cities with flood plain zones where the land is used for agriculture, parks and playgrounds. He described the Louisville flood land development where upstream on the Ohio River at the water supply intake a large flat area inundated several feet deep in the 1937 flood had been acquired by the city, the homes and business places removed and the land converted to a public park.

Another type of the zoning of useless land mentioned was the "slope" districts of Pittsburgh.

*Mr. Shaw* told of recent activities in Cleveland, the inclusion in the zoning ordinance of Shopping Center Districts and Residence-Industry Districts, a pending amendment on off-street parking for business and industries as well as residence uses, the effect on zoning of freeway progress and other amendments to keep up with the changing needs of the city. Due to a generous zoning for business and industry in order to get the ordinance passed 25 years ago, the excess in those districts has been whittled down until now the map amendments upward exceed, in frontage and acreage, the amendments lowering the classification.

Others taking part in the discussion were:

Harland Bartholomew, City Planning Consultant, St. Louis.

Malcolm H. Dill, Director, Baltimore County Planning Commission.

Myron D. Downs, City Planning Consultant, Cincinnati.

Lawrence V. Sheridan, City Planning Consultant, Indianapolis.

Ernest H. Stork, Director, City Plan Commission, Columbus.

*General U. S. Grant 3rd*, President of the Association, urged planning commissions to protect historic sites in their cities and to provide an interval of time within which the object or site could be acquired by the proper authorities after the matter has been referred to the local Fine Arts Committee.

*Mr. Bartholomew* noted a new era in zoning. He cautioned against Appeals or Adjustment Boards assuming legislative functions and urged them to stick to relieving "undue hardship."

*Mr. Dill* pointed out that industrial zones should be laid out along railroads, along highways tributary to railroads and along heavy trucking thoroughfares; that while trucks have taken over much of the light tonnage and less than car load lots, the railroads are still needed for the heavy mass transportation of merchandise.

*Mr. Shurtleff* commented on "spot zoning" and the attitude of the Connecticut courts toward it; also on the change in people's tastes, ambitions and habits of living as they grow older and cautioned young people against hasty investments in property which in their maturer years they might regret.

In the discussion on spot zoning the opinion was expressed that planners should not stand too much in awe of the law and what the courts might say; that circumstances alter cases; that much in City Planning has been accomplished in spite of the dire warnings of conservative city attorneys.

*Mr. Stork* described an interesting industrial development at the west edge of Columbus where Route 40 crosses another important highway; where a General Motors plant occupies one corner, a Westinghouse plant occupies another and the other two being held for like development; where beyond the large acreage on these corners big housing projects are going up in anticipation of the need for close-at-hand homes.



## Some Important and Often Neglected Aspects of Zoning

Suggested for Discussion by Panel on Recent Development in Zoning

LADISLAS SEGOE, Ladislav Segoe and Associates, Planning Consultants,  
Cincinnati, Ohio

### 1. ZONING SHOULD BE INTEGRAL PART OF THE OVERALL COMMUNITY PLAN

*Zoning to be fully effective, must be based on and geared to a comprehensive plan for the desirable future development of the community.*

If the zoning ordinance is to contribute all it can and should to sound and otherwise desirable community development it is not enough that it be designed to ensure the appropriate use of individual properties, the preventing of the injurious intermingling of incompatible uses and the overcrowding or other overintensive exploitation of the land. It must also be so designed that it will accord with and further the desirable overall development and redevelopment of the community.

The zoning ordinance is one of the most potent instruments for shaping such development—especially the land use pattern of the community, the distribution of population and economic and other activities—since it regulates the use and the intensity of use of all privately-owned land in the community. Because of the close interrelationships between private land uses and the public facilities necessary in various sections of the city, the zoning ordinance has considerable influence also on the location, size and overall pattern of public facilities of most categories. For the type and intensity of use of private land in the community are conditioned by the public facilities and services available or obtainable and, conversely, the kinds of public facilities and services that need to be provided in various areas, also their appropriate size or capacity, are determined chiefly by the characteristics of the land uses in the area to be served and the relationship of different land use areas one to another—in short, the land use pattern of the community.

Accordingly, the zoning ordinance, to be fully effective must be designed to help promote the following major features of the desirable overall development of the community:

- a. An overall pattern of land uses attuned to the physiographic characteristics of the site of the community, to its land resources, and its economic, cultural and other functions, and in scale with future prospects and requirements;
- b. The economically effective and socially desirable distribution of the population, of economic and other activities; and
- c. The provision of public facilities and services of such types and scale as appropriate in different parts of the community—these and all other features of community development fully coordinated and properly balanced one with another.

Obviously, a community development meeting or even approximating these desiderata cannot be achieved unless both private land uses and developments and also the provision of public improvements, their location and size or extent, are guided by a comprehensive and otherwise adequate long-range community plan. Obviously, also, the zoning ordinance is one of the principal instruments for effectuating such a plan, cannot and will not contribute much to the achievement of such community development through the years in the absence of such community plan, or if the ordinance is not an integral part of, and geared to, such a plan.

## 2. ZONING STANDARDS SHOULD BE AT LEAST AS ADVANCED AS BEST CURRENT PRACTICES

*General standards, that is, requirements applying to new buildings on lots of standard size, should measure up at least to actual recent local practices of the more advanced type and desirably should be better than prevalent practices.*

Unless this principle is observed the standards and requirements prescribed by the zoning ordinance will not have much influence on new building construction in the years to come. To prevent hardships in the case of existing lots of substandard size or dimensions, the ordinance should contain provisions for scaling down from standard area and open space requirements in accordance with specific formulae. Application of this principle is preferable to setting lower than desirable and practicable general standards for new buildings in order to meet conditions found in older sections representing obsolete building practices no longer acceptable.

## 3. CORRECTING EXCESS RIBBON BUSINESS ZONING.

*Excessive zoning for business, usually along thoroughfares and highways (ribbon zoning), should be reduced to bring the zoning of such frontages more nearly into scale with actual future requirements realistically estimated.*

Where appropriate and still practicable, the excess business-zoned frontages should be rezoned for residence (generally for multiple dwellings closer in and one or two-family dwellings farther out). Where such frontages are not suitable for residential development due to scattered business establishments in permanent buildings or other reasons, they should be placed in a zoning district category that will permit a rather wide range of commercial and light manufacturing uses. Being in excess of any prospective demand for retail business and service establishments and being undesirable for residential uses, this appears to be necessary if such highway frontages, now largely vacant or devoted to marginal commercial uses, are to be developed at all.

Along various sections of such ribbon-zoned frontages, generally one or the other of the following conditions obtain. The frontage properties may consist of:



- a. Predominantly of substantial retail business and service establishments.
- b. Of a mixture of residential and commercial uses often including light industrial establishments as well.
- c. Mostly of non-structural (open-air) commercial uses, a few business buildings, and the rest residential or vacant.
- d. Predominantly of residential buildings; of some scattered residential and/or business buildings, but mostly vacant.
- e. Predominantly of vacant properties.

To correct the excess ribbon business zoning along highways and thoroughfares, sections of such frontages of the above various general types should, wherever practicable, be reclassified, in general along the following lines:

- (1) Frontages of type (a) obviously either for neighborhood or for community business districts, as may be appropriate;
- (2) Those of type (b) for general business—light manufacturing district—or such a manufacturing district as such frontage properties adjoin in the rear;
- (3) Type (c) either for residence (usually multiple family) or the same as type (b)—depending on suitability and the kinds and proportion of different existing uses;
- (4) Frontages of types (d), (e) and (f) for residence of appropriate categories (multiple or two-family).

Rezoning these ribbon business districts along lines above indicated will promote a more rational and effective use of properties fronting major streets and highways, and will help to minimize thereby the economic and other losses, waste and disadvantages to owners of such properties, as well as the community, characteristically resulting from excessive ribbon business zoning.

#### 4. ZONING OF BLIGHTED AREAS.

*Blighted areas now predominantly residential and which are slated for residential redevelopment should be zoned residential if at all practicable.*

Such zoning will prevent the further intrusion of non-residential uses and to that extent the further deterioration of living conditions in such areas pending redevelopment. It will also prevent adding to the cost of the ultimate redevelopment.

*Other likewise now predominantly residential blighted areas which, however, are intended to be redeveloped for industrial or other non-residential uses, should also be zoned residential, whenever practicable, until their redevelopment is undertaken.*

This will not only serve the purpose of affording some protection against further impairment of living conditions in such areas, but will facilitate the assembling of large industrial sites at the time of redevelopment through the clearance of contiguous properties still residential at that time.

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